```
 * * * * * * * * * * * * * * STN Columbus * * * * * * * * * * * * * * * *
FILE 'HOME' ENTERED AT 07:48:26 ON 17 JUL 2003
=> file biosis,caba,caplus,embase,japio,lifesci,medline,scisearch,uspatfull
=> e Pearson james p au
E1          1    PEARSON JAMES MURRAY AU
E2          1    PEARSON JAMES MURREY AU
E3         38 --> PEARSON JAMES P AU
E4          1    PEARSON JAMES PHILIP AU
E5         11    PEARSON JAMES R AU
E6          1    PEARSON JAMES S AU
E7          1    PEARSON JAMES STEPHEN AU
E8         13    PEARSON JAMES T AU
E9          8    PEARSON JAMES W AU
E10         2    PEARSON JAMES WILLIAM AU
E11         2    PEARSON JAN AU
E12         6    PEARSON JANE AU

=> s e3-e4 and (aerugin? or autoinduc?)
L1         38 ("PEARSON JAMES P" AU OR "PEARSON JAMES PHILIP" AU) AND (AERUGIN
           ? OR AUTOINDUC?)

=> dup rem l1
PROCESSING COMPLETED FOR L1
L2         22 DUP REM L1 (16 DUPLICATES REMOVED)

=> d bib ab 1-
YOU HAVE REQUESTED DATA FROM 22 ANSWERS - CONTINUE? Y/(N):y

L2  ANSWER 1 OF 22  USPATFULL
AN    2003:140145  USPATFULL
TI    Immunogenic conjugates of Gram-negative bacterial  ***autoinducer***
      molecules and antibodies raised against the same
IN    Kende, Andrew S., Pittsford, NY, UNITED STATES
      Iglewski, Barbara H., Fairport, NY, UNITED STATES
      Smith, Roger, Rochester, NY, UNITED STATES
      Phipps, Richard P., Pittsford, NY, UNITED STATES
        ***Pearson, James P.***  , Cambridge, CA, UNITED STATES
PI    US 2003095985      A1   20030522
AI    US 2002-121207     A1   20020411 (10)
RLI   Division of Ser. No. US 1999-293687, filed on 16 Apr 1999, GRANTED, Pat.
      No. US 6395282
PRAI  US 1998-82025P     19980416 (60)
DT    Utility
FS    APPLICATION
LREP  Michael L. Goldman, NIXON PEABODY LLP, Clinton Square, P.O. Box 31051,
      Rochester, NY, 14603-1051
CLMN  Number of Claims: 34
ECL   Exemplary Claim: 1
DRWN  3 Drawing Page(s)
LN.CNT 1830
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB    The present invention relates to an immunogenic conjugate comprising a
      carrier molecule coupled to an  ***autoinducer***  of a Gram negative
      bacteria. The immunogenic conjugate, when combined with a
      pharmaceutically acceptable carrier, forms a suitable vaccine for
```

mammals to prevent infection by the Grain negative bacteria. The immunogenic conjugate is also used to raise and subsequently isolate antibodies or binding portions thereof which are capable of recognizing and binding to the ***autoinducer*** . The antibodies or binding portions thereof are utilized in a method of treating infections, a method of inhibiting ***autoinducer*** activity, and in diagnostic assays which detect the presence of ***autoinducers*** or ***autoinducer*** antagonists in fluid or tissue samples.

L2 ANSWER 2 OF 22 MEDLINE
AN 2002238680 MEDLINE
DN 21972769 PubMed ID: 11976283
TI Early activation of quorum sensing.
CM Comment on: J Bacteriol. 2002 May;184(10):2576-86
AU ***Pearson James P***
CS Microbia, Inc., One Kendall Square, Cambridge, MA 02139, USA..
jpearson@microbia.com
SO JOURNAL OF BACTERIOLOGY, (2002 May) 184 (10) 2569-71.
Journal code: 2985120R. ISSN: 0021-9193.
CY United States
DT Commentary
Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200205
ED Entered STN: 20020429
Last Updated on STN: 20020528
Entered Medline: 20020522

L2 ANSWER 3 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 1
AN 2002:358626 BIOSIS
DN PREV200200358626
TI Immunogenic conjugates of Gram-negative bacterial ***autoinducer*** molecules.
AU Kende, Andrew S. (1); Iglewski, Barbara H.; Smith, Roger A.; Phipps, Richard P.; ***Pearson, James P.***
CS (1) Pittsford, NY USA
ASSIGNEE: University of Rochester, Rochester, NY, USA
PI US 6395282 May 28, 2002
SO Official Gazette of the United States Patent and Trademark Office Patents, (May 28, 2002) Vol. 1258, No. 4, pp. No Pagination.
http://www.uspto.gov/web/menu/patdata.html. e-file.
ISSN: 0098-1133.
DT Patent
LA English
AB The present invention relates to an immunogenic conjugate comprising a carrier molecule coupled to an ***autoinducer*** of a Gram negative bacteria. The immunogenic conjugate, when combined with a pharmaceutically acceptable carrier, forms a suitable vaccine for mammals to prevent infection by the Gram negative bacteria. The immunogenic conjugate is also used to raise and subsequently isolate antibodies or binding portions thereof which are capable of recognizing and binding to the ***autoinducer*** . The antibodies or binding portions thereof are utilized in a method of treating infections, a method of inhibiting

autoinducer activity, and in diagnostic assays which detect the presence of ***autoinducers*** or ***autoinducer*** antagonists in fluid or tissue samples.

L2 ANSWER 4 OF 22 CAPLUS COPYRIGHT 2003 ACS
AN 2002:171860 CAPLUS
DN 136:215514
TI Novel ***autoinducer*** molecules and uses therefor
IN Pesci, Everett C.; Milbank, Jared B. J.; ***Pearson, James P.*** ; Kende, Andrew S.; Greenberg, Everett Peter; Iglewski, Barbara H.
PA The University of Iowa Research Foundation, USA; University of Rochester; East Carolina University
SO PCT Int. Appl., 42 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002018342	A2	20020307	WO 2001-US27165	20010831
WO 2002018342	A3	20020510		
AU 2001086976	A5	20020313	AU 2001-86976	20010831
US 2002177715	A1	20021128	US 2001-945325	20010831

PI WO 2002018342 A2 20020307 WO 2001-US27165 20010831
WO 2002018342 A3 20020510
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
AU 2001086976 A5 20020313 AU 2001-86976 20010831
US 2002177715 A1 20021128 US 2001-945325 20010831
PRAI US 2000-229715P P 20000831
WO 2001-US27165 W 20010831
OS MARPAT 136:215514
AB Novel bacterial quinolone signal mols. and, more particularly, Pseudomonas quinolone signal ("PQS") mols., e.g., 2-heptyl-3-hydroxy-4-quinolone, and analogs and derivs. are described,. Therapeutic compns. contg. the mols., and therapeutic methods, methods of for regulating gene expression, methods for identifying modulators of the ***autoinducer*** mols., and methods of modulating quorum sensing signaling in bacteria using the compds. of the invention are also described. Thus, 2-Heptyl-3-hydroxy-4-quinolone was isolated from culture broth of Pseudomonas ***aeruginosa*** PAO-JP2 pECP39.

L2 ANSWER 5 OF 22 USPATFULL
AN 2002.315226 USPATFULL
TI Novel ***autoinducer*** molecules and uses therefor
IN Pesci, Everett C., Greenville, NC, UNITED STATES
Iglewski, Barbara H., Fairport, NY, UNITED STATES
Milbank, Jared B.J., Ann Arbor, MI, UNITED STATES
Pearson, James P. , Cambridge, MA, UNITED STATES
Kende, Andrew S., Pittsford, NY, UNITED STATES
Greenberg, Everett Peter, Iowa City, IA, UNITED STATES
PI US 2002177715 A1 20021128

AI US 2001-945325 A1 20010831 (9)
PRAI US 2000-229715P 20000831 (60)
DT Utility
FS APPLICATION
LREP LAHIVE & COCKFIELD, 28 STATE STREET, BOSTON, MA, 02109
CLMN Number of Claims: 64
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 1568
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Novel bacterial quinolone signal molecules and, more particularly, pseudomonas quinolone signal ("PQS") molecules, e.g., 2-heptyl-3-hydroxy-4-quinolone, and analogs and derivatives thereof are described. Therapeutic compositions containing the molecules, and therapeutic methods, methods of for regulating gene expression, methods for identifying modulators of the ***autoinducer*** molecules, and methods of modulating quorum sensing signalling in bacteria using the compounds of the invention are also described.

L2 ANSWER 6 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 2
AN 2002:298826 BIOSIS
DN PREV200200298826
TI Early activation of quorum sensing.
AU ***Pearson, James P. (1)***
CS (1) Microbia, Inc., One Kendall Square, Building 1400W, Cambridge, MA, 02139: jpearson@microbia.com USA
SO Journal of Bacteriology, (May, 2002) Vol. 184, No. 10, pp. 2569-2571. http://intl-jb.asm.org/. print.
ISSN: 0021-9193.
DT Article
LA English

L2 ANSWER 7 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 3
AN 2001:127654 BIOSIS
DN PREV200100127654
TI Inhibition of quorum sensing by a Pseudomonas ***aeruginosa*** dksA homologue.
AU Branny, Pavel; ***Pearson, James P.*** ; Pesci, Everett C.; Kohler, Thilo; Iglewski, Barbara H.; Van Delden, Christian (1)
CS (1) Department of Genetics and Microbiology, Medical School of the University of Geneva, CMU, 9 Av. Champel, CH-1211, Geneva 4: Christian.vanDelden@medecine.unige.ch Switzerland
SO Journal of Bacteriology, (March, 2001) Vol. 183, No. 5, pp. 1531-1539. print.
ISSN: 0021-9193.
DT Article
LA English
SL English
AB The Pseudomonas ***aeruginosa*** las (lasR-lasI) and rhl (rhlR-rhlI) quorum-sensing systems regulate the expression of several virulence factors, including elastase and rhamnolipid. P. ***aeruginosa*** strain PR1-E4 is a lasR deletion mutant that contains a second, undefined mutation which allows production of elastase and rhamnolipid despite a

nonfunctional las system. We have previously shown that this strain accomplishes this by increasing the expression of the ***autoinducer*** synthase gene rhlI. In this report, we show that the elastolytic phenotype of mutant PR1-E4 can be complemented with a P. ***aeruginosa*** homologue of the Escherichia coli dnaK mutation suppressor gene dksA. When supplied in trans on a multicopy plasmid, this gene completely suppressed elastase production by mutant PR1-E4. Cloning and Northern blot analysis revealed that dksA was neither mutated nor less transcribed in mutant PR1-E4. When overexpressed, dksA also reduced rhamnolipid production by both mutant PR1-E4 and the wild type, PAO1. Using Northern blot analysis and lacZ reporter fusions, we show that dksA inhibits rhlI, rhlAB, and lasB transcription. Exogenous N-butyryl-L-homoserine lactone overcame the reduced expression of rhlI and restored rhlAB and lasB expression, as well as elastase production. Our results suggest that the overproduction of the P. ***aeruginosa*** DksA homologue inhibits quorum-sensing-dependent virulence factor production by downregulating the transcription of the ***autoinducer*** synthase gene rhlI.

L2 ANSWER 8 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 4
AN 2000:542087 BIOSIS
DN PREV200000542087
TI ***Autoinducer*** molecule.
AU ***Pearson, James P. (1)*** ; Gray, Kendall M.; Passador, Luciano; Tucker, Kenneth D.; Eberhard, Anatol; Iglewski, Barbara H.; Greenberg, Everett P.
CS (1) Iowa City, IA USA
ASSIGNEE: University of Iowa, Iowa City, IA, USA; University of Rochester; Ithaca College, Ithaca, NY, USA
PI US 6057288 May 02, 2000
SO Official Gazette of the United States Patent and Trademark Office Patents, (May 2, 2000) Vol. 1234, No. 1, pp. No pagination. e-file.
ISSN: 0098-1133.
DT Patent
LA English
AB ***Autoinducer*** molecules, e.g., N-(3-oxododecanoyl)homoserine lactone, for Pseudomonas ***aeruginosa*** are described. The molecules regulate gene expression in the bacterium. Therapeutic compositions and therapeutic methods involving analogs and/or inhibitors of the ***autoinducer*** molecules also are described. The molecules are useful for treating or preventing infection by Pseudomonas ***aeruginosa*** .

L2 ANSWER 9 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 5
AN 2000:349514 BIOSIS
DN PREV200000349514
TI Pseudomonas ***aeruginosa*** cell-to-cell signaling is required for virulence in a model of acute pulmonary infection.
AU ***Pearson, James P.*** ; Feldman, Matthew; Iglewski, Barbara H.; Prince, Alice (1)
CS (1) College of Physicians and Surgeons, Columbia University, 650 W. 168th St., New York, NY, 10032 USA
SO Infection and Immunity, (July, 2000) Vol. 68, No. 7, pp. 4331-4334. print.
ISSN: 0019-9567.
DT Article

LA English
SL English
AB Cell-to-cell signaling controls many virulence genes in Pseudomonas ***aeruginosa*** We tested the virulence of las and rhl quorum-sensing mutants in neonatal mice. A lasI rhlI double mutant was nearly avirulent, and the respective single mutant strains were reduced in virulence compared with the wild-type strain. Quorum sensing plays a role in P. ***aeruginosa*** pneumonia in neonatal mice.

L2 ANSWER 10 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 6
AN 1999:495840 BIOSIS
DN PREV199900495840
TI Quinolone signaling in the cell-to-cell communication system of Pseudomonas ***aeruginosa*** .
AU Pesci, Everett C. (1); Milbank, Jared B. J.; ***Pearson, James P.*** ; McKnight, Susan; Kende, Andrew S.; Greenberg, E. Peter; Iglewski, Barbara H.
CS (1) Department of Microbiology and Immunology, East Carolina University School of Medicine, 600 Moye Boulevard, BT 132, Greenville, NC, 27858 USA
SO Proceedings of the National Academy of Sciences of the United States of America, (Sept. 28, 1999) Vol. 96, No. 20, pp. 11229-11234. ISSN: 0027-8424.
DT Article
LA English
SL English
AB Numerous species of bacteria use an elegant regulatory mechanism known as quorum sensing to control the expression of specific genes in a cell-density dependent manner. In Gram-negative bacteria, quorum sensing systems function through a cell-to-cell signal molecule (***autoinducer***) that consists of a homoserine lactone with a fatty acid side chain. Such is the case in the opportunistic human pathogen Pseudomonas ***aeruginosa*** , which contains two quorum sensing systems (las and rhl) that operate via the ***autoinducers*** , N-(3-oxododecanoyl)-L-homoserine lactone and N-butyryl-L-homoserine lactone. The study of these signal molecules has shown that they bind to and activate transcriptional activator proteins that specifically induce numerous P. ***aeruginosa*** virulence genes. We report here that P. ***aeruginosa*** produces another signal molecule, 2-heptyl-3-hydroxy-4-quinolone, which has been designated as the Pseudomonas quinolone signal. It was found that this unique cell-to-cell signal controlled the expression of lasB, which encodes for the major virulence factor, LasB elastase. We also show that the synthesis and bioactivity of Pseudomonas quinolone signal were mediated by the P. ***aeruginosa*** las and rhl quorum sensing systems, respectively. The demonstration that 2-heptyl-3-hydroxy-4-quinolone can function as an intercellular signal sheds light on the role of secondary metabolites and shows that P. ***aeruginosa*** cell-to-cell signaling is not restricted to acyl-homoserine lactones.

L2 ANSWER 11 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 7
AN 1999:186664 BIOSIS
DN PREV199900186664
TI Active efflux and diffusion are involved in transport of Pseudomonas

aeruginosa cell-to-cell signals.
AU ***Pearson, James P.*** ; van Delden, Christian; Iglewski, Barbara H.
(1)
CS (1) Department of Microbiology and Immunology, University of Rochester, 601 Elmwood Ave., Rochester, NY, 14642 USA
SO Journal of Bacteriology, (Feb., 1999) Vol. 181, No. 4, pp. 1203-1210. ISSN: 0021-9193.
DT Article
LA English
AB Many gram-negative bacteria communicate by N-acyl homoserine lactone signals called ***autoinducers*** (AIs). In Pseudomonas ***aeruginosa*** , cell-to-cell signaling controls expression of extracellular virulence factors, the type II secretion apparatus, a stationary-phase sigma factor (sigmas), and biofilm differentiation. The fact that a similar signal, N-(3-oxohexanoyl) homoserine lactone, freely diffuses through Vibrio fischeri and Escherichia coli cells has led to the assumption that all AIs are freely diffusible. In this work, transport of the two P. ***aeruginosa*** AIs, N-(3-oxododecanoyl) homoserine lactone (3OC12-HSL) (formerly called PAI-1) and N-butyryl homoserine lactone (C4-HSL) (formerly called PAI-2), was studied by using tritium-labeled signals. When (3H)C4-HSL was added to cell suspensions of P. ***aeruginosa*** , the cellular concentration reached a steady state in less than 30 s and was nearly equal to the external concentration, as expected for a freely diffusible compound. In contrast, (3H)3OC12-HSL required about 5 min to reach a steady state, and the cellular concentration was 3 times higher than the external level. Addition of inhibitors of the cytoplasmic membrane proton gradient, such as azide, led to a strong increase in cellular accumulation of (3H)3OC12-HSL, suggesting the involvement of active efflux. A defined mutant lacking the mexA-mexB-oprM-encoded active-efflux pump accumulated (3H)3OC12-HSL to levels similar to those in the azide-treated wild-type cells. Efflux experiments confirmed these observations. Our results show that in contrast to the case for C4-HSL, P. ***aeruginosa*** cells are not freely permeable to 3OC12-HSL. Instead, the mexA-mexB-oprM-encoded efflux pump is involved in active efflux of 3OC12-HSL. Apparently the length and/or degree of substitution of the N-acyl side chain determines whether an AI is freely diffusible or is subject to active efflux by P. ***aeruginosa*** .

L2 ANSWER 12 OF 22 CAPLUS COPYRIGHT 2003 ACS
AN 1999:445610 CAPLUS
DN 131:141942
TI A genetic and physiological analysis of cell-to-cell signaling of Pseudomonas ***aeruginosa***
AU ***Pearson, James Philip***
CS Univ. of Rochester, Rochester, NY, USA
SO (1998) 154 pp. Avail.: UMI, Order No. DA9919720
From: Diss. Abstr. Int., B 1999, 60(2), 482
DT Dissertation
LA English
AB Unavailable

L2 ANSWER 13 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 8
AN 1998:435231 BIOSIS

DN PREV199800435231
TI Starvation selection restores elastase and rhamnolipid production in a Pseudomonas ***aeruginosa*** quorum-sensing mutant.
AU Van Delden, Christian; Pesci, Everett C.; ***Pearson, James P.*** ; Iglewski, Barbara H. (1)
CS (1) Dep. Microbiol. Immunol., Univ. Rochester, 601 Elmwood Ave., Rochester, NY 14642 USA
SO Infection and Immunity, (Sept., 1998) Vol. 66, No. 9, pp. 4499-4502. ISSN: 0019-9567.
DT Article
LA English
AB The las quorum-sensing system of Pseudomonas ***aeruginosa*** controls the expression of elastase and rhamnolipid. We report that starvation can select a mutant producing these virulence factors in spite of a lasR deletion. Expression of the ***autoinducer*** synthase gene rhlI was increased in this suppressor mutant, suggesting compensation by the rhl system. These data show that P. ***aeruginosa*** can restore elastase and rhamnolipid production in the absence of a functional las quorum-sensing system.

L2 ANSWER 14 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 9
AN 1998:233306 BIOSIS
DN PREV199800233306
TI The involvement of cell-to-cell signals in the development of a bacterial biofilm.
AU Davies, David G.; Parsek, Matthew R.; ***Pearson, James P.*** ; Iglewski, Barbara H.; Costerton, J. W.; Greenberg, E. P. (1)
CS (1) Dep. Microbiol., Univ. Iowa, Iowa City, IA 52242 USA
SO Science (Washington D C), (April 10, 1998) Vol. 280, No. 5361, pp. 295-298.
ISSN: 0036-8075.
DT Article
LA English
AB Bacteria in nature often exist as sessile communities called biofilms. These communities develop structures that are morphologically and physiologically differentiated from free-living bacteria. A cell-to-cell signal is involved in the development of Pseudomonas ***aeruginosa*** biofilms. A specific signaling mutant, a lasI mutant, forms flat, undifferentiated biofilms that unlike wild-type biofilms are sensitive to the biocide sodium dodecyl sulfate. Mutant biofilms appeared normal when grown in the presence of a synthetic signal molecule. The involvement of an intercellular signal molecule in the development of P. ***aeruginosa*** biofilms suggests possible targets to control biofilm growth on catheters, in cystic fibrosis, and in other environments where P. ***aeruginosa*** biofilms are a persistent problem.

L2 ANSWER 15 OF 22 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 10
AN 1997:49297 CAPLUS
DN 126:155048
TI ***Autoinducer*** molecule
IN ***Pearson, James P.*** ; Gray, Kendall M.; Passador, Luciano; Tucker, Kenneth D.; Eberhard, Anatol; Iglewski, Barbara H.; Greenberg, Everett P.
PA The University of Iowa Research Foundation, USA
SO U.S., 12 pp.

CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 5591872	A	19970107	US 1993-104487	19930809
US 6057288	A	20000502	US 1995-456864	19950601

PRAI US 1993-104487 19930809
OS MARPAT 126:155048
AB ***Autoinducer*** mols., e.g., N-(3-oxododecanoyl)homoserine lactone, for Pseudomonas ***aeruginosa*** are described. The mols. regulate gene expression in the bacterium. Therapeutic compns. and therapeutic methods involving analogs and or inhibitors of the ***autoinducer*** mols. also are described. The mols. are useful for treating or preventing infection by Pseudomonas ***aeruginosa*** .

L2 ANSWER 16 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 11
AN 1997:453341 BIOSIS
DN PREV199799752544
TI Roles of Pseudomonas ***aeruginosa*** las and rhl quorum-sensing systems in control of elastase and rhamnolipid biosynthesis genes.
AU ***Pearson, James P.*** ; Pesci, Everett C.; Iglewski, Barbara H. (1)
CS (1) Dep. Microbiol. Immunol., Univ. Rochester, 601 Elmwood Ave., Box 672, Rochester, NY 14642 USA
SO Journal of Bacteriology, (1997) Vol. 179, No. 18, pp. 5756-5767. ISSN: 0021-9193.
DT Article
LA English
AB Two quorum-sensing systems (las and rhl) regulate virulence gene expression in Pseudomonas ***aeruginosa*** . The las system consists of a transcriptional activator, LasR, and LasI, which directs the synthesis of the ***autoinducer*** N-(3-oxododecanoyl) homoserine lactone (PAI-1). Induction of lasB (encoding elastase) and other virulence genes requires LasR and PAI-1. The rhl system consists of a putative transcriptional activator, RhlR, and RhlI, which directs the synthesis of N-butyryl homoserine lactone (PAI-2). Rhamnolipid production in P. ***aeruginosa*** has been reported to require both the rhl system and rhlAB (encoding a rhamnosyltransferase). Here we report the generation of a DELTA-lasI mutant and both DELTA-lasI DELTA-rhlI and DELTA-lasR rhlR::Tn501 double mutants of strain PA01. Rhamnolipid production and elastolysis were reduced in the DELTA-lasI single mutant and abolished in the double-mutant strains. rhlAB mRNA was not detected in these strains at mid-logarithmic phase but was abundant in the parental strain. Further RNA analysis of the wild-type strain revealed that rhlAB is organized as an operon. The rhlAB transcriptional start was mapped, and putative sigma-54 and sigma-70 promoters were identified upstream. To define components required for rhlAB expression, we developed a bioassay in Escherichia coli and demonstrated that PAI-2 and RhlR are required and sufficient for expression of rhlA. To characterize the putative interaction between PAI-2 and RhlR, we demonstrated that (3H) PAI-2 binds to E. coli cells expressing RhlR and not to those expressing LasR. Finally, the specificity of the las and rhl systems was examined in E. coli bioassays. The las system was capable of mildly activating rhlA, and similarly, the rhi

system partly activated lasB. However, these effects were much less than the activation of rhl4 by the rhl system and lasB by the las system. The results presented here further characterize the roles of the rhl and las quorum-sensing systems in virulence gene expression.

L2 ANSWER 17 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 12
AN 1997:273276 BIOSIS
DN PREV199799564994
TI Regulation of las and rhl Quorum sensing in Pseudomonas ***aeruginosa***

AU Pesci, Everett C.; ***Pearson, James P.*** ; Seed, Patrick C.; Iglewski, Barbara H. (1)
CS (1) Dep Microbiol. Immunol., Univ. Rochester, 601 Elmwood Ave., Box 672, Rochester, NY 14642 USA
SO Journal of Bacteriology, (1997) Vol. 179, No. 10, pp. 3127-3132. ISSN: 0021-9193.
DT Article
LA English
AB The production of several virulence factors by Pseudomonas ***aeruginosa*** is controlled according to cell density through two quorum-sensing systems, las and rhl. The las system is comprised of the transcriptional activator protein LasR and of LasI, which directs the synthesis of the ***autoinducer*** PAI-1. Similarly, the rhl system consists of the transcriptional activator protein RhlR and of RhlI, which directs synthesis of the ***autoinducer*** PAI-2 (formerly referred to as factor 2). To study the interrelation between the two P. ***aeruginosa*** quorum-sensing systems, we fused a lacZ reporter gene to lasR, rhlR, and rhlA and monitored expression of these three genes under various conditions. Our data indicate that lasR and rhlR are expressed in a growth-dependent manner, with activation of each gene occurring during the last half of log-phase growth. We also show that the las quorum-sensing system controls the rhl quorum-sensing system in two ways. First, we found that LasR and PAI-1 activated rhlR transcription. Second, we showed that PAI-1 blocked PAI-2 from binding to RhlR, thereby inhibiting the expression of rhlA. Our data thus indicate that the las system exerts two levels of control on RhlR, transcriptional and posttranslational.

L2 ANSWER 18 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 13
AN 1996:76013 BIOSIS
DN PREV199698648148
TI Cell-to-cell signaling in the symbiotic nitrogen-fixing bacterium Rhizobium leguminosarum: ***Autoinduction*** of a stationary phase and rhizophere expressed genes.
AU Gray, Kendall M.; ***Pearson, James P.*** ; Downie, J. Allan; Boboye, Bolatito E. A.; Greenberg, E. Peter (1)
CS (1) Dep. Microbiol., Univ. Iowa, Iowa City, IA 52242 USA
SO Journal of Bacteriology, (1996) Vol. 178, No. 2, pp. 372-376. ISSN: 0021-9193.
DT Article
LA English
AB The Sym plasmid pRL1JI encodes functions for the formation of nitrogen-fixing pea root nodules by Rhizobium leguminosarum. Some of the

nodulation genes are involved in recognition of chemical signals produced by the plant root, and others are required for production of chemical signals recognized by the plant. pRL1JI also contains a regulatory gene, rhiR, that is homologous to luxR, the transcriptional activator of luminescence genes in Vibrio fischeri. LuxR requires a signal compound, an ***autoinducer*** , for its activity. We have identified an R. leguminosarum ***autoinducer*** that, together with RhiR, is required to activate both the rhizosphere-expressed rhiABC operon and a growth-inhibiting function encoded by pRL1JI. This intercellular signal is an N-acylated homoserine lactone structurally related to the V. fischeri and other ***autoinducers*** . These findings indicate a new level of intercellular communication in root nodule formation.

L2 ANSWER 19 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1996:259305 BIOSIS
DN PREV199698815434
TI Evidence of Pseudomonas ***aeruginosa*** factor 2 binding to RHlR and mapping of the rhlA transcriptional start site.
AU ***Pearson, James P.*** ; Pesci, Everett C.; Iglewski, Barbara H.
CS Univ. Rochester, Rochester, NY 14642 USA
SO Abstracts of the General Meeting of the American Society for Microbiology, (1996) Vol. 96, No. 0, pp. 160.
Meeting Info.: 96th General Meeting of the American Society for Microbiology New Orleans, Louisiana, USA May 19-23, 1996
ISSN: 1060-2011.
DT Conference
LA English

L2 ANSWER 20 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1996:259304 BIOSIS
DN PREV199698815433
TI A comparison of two ***autoinduction*** systems of Pseudomonas ***aeruginosa*** .
AU Pesci, Everett C.; ***Pearson, James P.*** ; Iglewski, Barbara H.
CS Univ. Rochester, Rochester, NY 14642 USA
SO Abstracts of the General Meeting of the American Society for Microbiology, (1996) Vol. 96, No. 0, pp. 159.
Meeting Info.: 96th General Meeting of the American Society for Microbiology New Orleans, Louisiana, USA May 19-23, 1996
ISSN: 1060-2011.
DT Conference
LA English

L2 ANSWER 21 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 14
AN 1995:205513 BIOSIS
DN PREV199598219813
TI A second N-acylhomoserine lactone signal produced by Pseudomonas ***aeruginosa*** .
AU ***Pearson, James P. (1)*** ; Passador, Luciano; Iglewski, Barbara H.; Greenberg, E. P.
CS (1) Dep. Microbiol. Immunol., Univ. Rochester, Rochester, NY 14642 USA
SO Proceedings of the National Academy of Sciences of the United States of America, (1995) Vol. 92, No. 5, pp. 1490-1494.
ISSN: 0027-8424.

DT Article
LA English
AB Quorum sensing systems are used by a number of Gram-negative bacterial species to regulate specific sets of genes in a cell density-dependent manner. Quorum sensing involves synthesis and detection of extracellular signals termed ***autoinducers*** . As shown in recombinant Escherichia coli, the Pseudomonas ***aeruginosa*** ***autoinducer*** (PAI) N-(3-oxododecanoyl)homoserine lactone, together with the lasR gene product, activate the P. ***aeruginosa*** lasB gene. In this study, PAI was shown to activate lasB-lacZ expression in a P. ***aeruginosa*** lasR mutant containing a plasmid with lasR under the control of the lac promoter. The concentration of PAI necessary for half-maximal activation of the lasB-lacZ fusion was apprxeq 1 mu-M, which is within the range of PAZ levels found in P. ***aeruginosa*** culture fluids. The effect of PAI on a P. ***aeruginosa*** lasR mutant containing a plasmid with lasR under the control of its own promoter and containing the lasB-lacZ fusion was also tested. Although extracts of culture fluid activated the lasB promoter in this construct, concentrations of PAI as high as 10 mu-M did not. This indicates the presence of a second extracellular factor (factor 2) that is required for lasB activation in P. ***aeruginosa*** when lasR is controlled by its own promoter but not when lasR is controlled by a strong foreign promoter. Factor 2 was shown to be N-butyrylhomoserine lactone. Although recombinant E. coli cells containing the PAI synthase gene, lasI, produce PAI, these cells do not produce factor 2. Furthermore, a P. ***aeruginosa*** mutant that produced about 0.1% of the wild-type level of PAI made about 5% of the wild-type level of factor 2. This indicates that factor 2 synthesis results from the activity of a gene product other than PAI synthase. The role of factor 2 in virulence gene regulation remains to be determined, but this compound may affect the expression of lasR, which in turn activates transcription of numerous virulence genes in the presence of sufficient PAI. Apparently, multiple quorum sensing systems can occur and interact with each other in a single bacterial species.

L2 ANSWER 22 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 15
AN 1994:126275 BIOSIS
DN PREV199497139275
TI Structure of the ***autoinducer*** required for expression of Pseudomonas ***aeruginosa*** virulence genes.
AU ***Pearson, James P.*** ; Gray, Kendall M.; Passador, Luciano; Tucker, Kenneth D.; Eberhard, Anatol; Iglewski, Barbara H.; Greenberg, E. P. (1)
CS (1) Dep. Microbiol., Univ. Iowa, Iowa City, IA 52242 USA
SO Proceedings of the National Academy of Sciences of the United States of America, (1994) Vol. 91, No. 1, pp. 197-201.
ISSN: 0027-8424.
DT Article
LA English
AB In Pseudomonas ***aeruginosa*** the LasR protein is required for activation of lasB and several other virulence genes. A diffusible signal molecule, the P. ***aeruginosa*** ***autoinducer*** (PAI), produced by the bacterial cell and released into the growth medium, is required for activity of LasR. By cloning a lasB::lacZ fusion and a lasR gene under control of the Lac promoter in Escherichia coli, we have developed a quantitative bioassay for PAI. We have used this assay to

follow the purification of PAI from cell-free culture supernatant fluids in which P. ***aeruginosa*** or E. coli containing the P. ***aeruginosa*** gene required for ***autoinducer*** synthesis, lasI, had been grown. Chemical analyses indicated the purified material was 3-oxoN-(tetrahydro-2-oxo-3-furanyl)dodecanamide. To confirm this assignment, the compound was synthesized and the synthetic compound was shown to have chemical and biological properties identical to those of PAI purified from culture supernatant fluids. The elucidation of the PAI structure suggests therapeutic approaches toward control of P. ***aeruginosa*** infections.

=> e gray kendall m au
E1 2 GRAY KELLY R/AU
E2 5 GRAY KELSEY/AU
E3 21 --> GRAY KENDALL M/AU
E4 13 GRAY KENNETH/AU
E5 1 GRAY KENNETH D/AU
E6 10 GRAY KENNETH E/AU
E7 1 GRAY KENNETH EUGENE/AU
E8 1 GRAY KENNETH G/AU
E9 4 GRAY KENNETH L/AU
E10 2 GRAY KENNETH LLEWELLYN/AU
E11 3 GRAY KENNETH M/AU
E12 8 GRAY KENNETH N/AU

=> s e3 and (aerugin? or autoinduc?)
L3 16 "GRAY KENDALL M"/AU AND (AERUGIN? OR AUTOINDUC?)

=> dup rem l3
PROCESSING COMPLETED FOR L3
L4 10 DUP REM L3 (6 DUPLICATES REMOVED)

=> d bib ab 1-
YOU HAVE REQUESTED DATA FROM 10 ANSWERS - CONTINUE? Y/(N):y

L4 ANSWER 1 OF 10 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 1
AN 2001:440753 BIOSIS
DN PREV200100440753
TI The evolution of bacterial LuxI and LuxR quorum sensing regulators.
AU ***Gray, Kendall M. (1)*** ; Garey, James R.
CS (1) Department of Microbiology, University of Washington, Seattle, WA, 98195-7242: kmg@u.washington.edu USA
SO Microbiology (Reading), (August, 2001) Vol. 147, No. 8, pp. 2379-2387. print.
ISSN: 1350-0872.
DT Article
LA English
SL English
AB Quorum sensing is a widespread form of bacterial communication in which individual cells produce and respond to specific N-acyl homoserine lactone signal metabolites. The different ***autoinducer*** synthases that generate these signals and the receptor activator proteins that mediate the cell's response to them constitute evolutionarily conserved families

of regulatory proteins known as the LuxI and LuxR families, respectively. We have performed a phylogenetic analysis of 76 individual LuxI and LuxR homologues present in diverse members of the Gram-negative Proteobacteria. The results were consistent with an early origin for these regulators during the evolution of the Proteobacteria, with functional pairs of luxI and luxR genes possibly coevolving as regulatory cassettes. In many cases, specific LuxI and LuxR family members appeared to have been inherited horizontally. In particular, those species containing multiple LuxI and or LuxR homologues usually appeared to have obtained each individual homologue or functional pair of homologues from an independent source. Because multiple homologues interact to form regulatory cascades, this finding suggests that hierarchical signalling pathways can potentially evolve by the sequential integration of pre-existing regulatory circuits acquired from diverse sources.

L4 ANSWER 2 OF 10 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 2
AN 2000:542087 BIOSIS
DN PREV200000542087
TI ***Autoinducer*** molecule.
AU Pearson, James P. (1); ***Gray, Kendall M.*** ; Passador, Luciano; Tucker, Kenneth D.; Eberhard, Anatol; Iglewski, Barbara H.; Greenberg, Everett P.
CS (1) Iowa City, IA USA
ASSIGNEE: University of Iowa, Iowa City, IA, USA; University of Rochester; Ithaca College, Ithaca, NY, USA
PI US 6057288 May 02, 2000
SO Official Gazette of the United States Patent and Trademark Office Patents, (May 2, 2000) Vol. 1234, No. 1, pp. No pagination. e-file.
ISSN: 0098-1133.
DT Patent
LA English
AB ***Autoinducer*** molecules, e.g., N-(3-oxododecanoyl)homoserine lactone, for Pseudomonas ***aeruginosa*** are described. The molecules regulate gene expression in the bacterium. Therapeutic compositions and therapeutic methods involving analogs and or inhibitors of the ***autoinducer*** molecules also are described. The molecules are useful for treating or preventing infection by Pseudomonas ***aeruginosa*** .

L4 ANSWER 3 OF 10 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 2000:233405 BIOSIS
DN PREV200000233405
TI Extraction of violacein from Chromobacterium violaceum provides a new quantitative bioassay for N-acyl homoserine lactone ***autoinducers***
.
AU Blosser, Renee S.; ***Gray, Kendall M. (1)***
CS (1) Department of Biology, University of South Florida, 4202 E. Fowler Ave., SCA 110, Tampa, FL, 33620 USA
SO Journal of Microbiological Methods, (March, 2000) Vol. 40, No. 1, pp. 47-55.
ISSN: 0167-7012.
DT Article
LA English
SL English
AB Fatty acyl homoserine lactones (AHLs) are used as extracellular quorum

sensing signals by a variety of Gram-negative bacteria. By activating proteins belonging to the LuxR family of transcriptional regulators, these signal metabolites allow population density-dependent gene regulation within a species, as well as interspecies communication among different bacteria. The experimental detection of AHLs is important in the identification of quorum sensing capabilities in bacteria. Chromobacterium violaceum is a Gram-negative bacterium that produces the purple pigment violacein in response to the presence of the AHL N-hexanoyl homoserine lactone (C6HSL). The mini-Tn5 mutant strain C. violaceum CV0blu is deficient in the production of this signal molecule but retains the ability to synthesize violacein in response to the presence of C6HSL and a variety of other short-chain AHLs. We have developed a quantitative bioassay that measures the amount of violacein produced by this strain in response to the presence of different concentrations of various AHL molecules. This new assay provides a means of quantifying the amount of a given AHL present in a bacterial culture and can be used to measure differences in AHL production among different strains or different batch cultures of a given species.

L4 ANSWER 4 OF 10 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 3
AN 1997:49297 CAPLUS
DN 126:155048
TI ***Autoinducer*** molecule
IN Pearson, James P.; ***Gray, Kendall M.*** ; Passador, Luciano; Tucker, Kenneth D.; Eberhard, Anatol; Iglewski, Barbara H.; Greenberg, Everett P.
PA The University of Iowa Research Foundation, USA
SO U.S., 12 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 5591872	A	19970107	US 1993-104487	19930809
US 6057288	A	20000502	US 1995-456864	19950601
PRAI US 1993-104487		19930809		

OS MARPAT 126:155048
AB ***Autoinducer*** mols., e.g., N-(3-oxododecanoyl)homoserine lactone, for Pseudomonas ***aeruginosa*** are described. The mols. regulate gene expression in the bacterium. Therapeutic compns. and therapeutic methods involving analogs and/or inhibitors of the ***autoinducer*** mols. also are described. The mols. are useful for treating or preventing infection by Pseudomonas ***aeruginosa*** .

L4 ANSWER 5 OF 10 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 4
AN 1996:76013 BIOSIS
DN PREV199698648148
TI Cell-to-cell signaling in the symbiotic nitrogen-fixing bacterium Rhizobium leguminosarum: ***Autoinduction*** of a stationary phase and rhizophere expressed genes.
AU ***Gray, Kendall M.*** ; Pearson, James P.; Downie, J. Allan; Boboye, Bolatito E. A.; Greenberg, E. Peter (1)
CS (1) Dep. Microbiol., Univ. Iowa, Iowa City, IA 52242 USA
SO Journal of Bacteriology, (1996) Vol. 178, No. 2, pp. 372-376.

ISSN: 0021-9193.
DT Article
LA English
AB The Sym plasmid pRL1JI encodes functions for the formation of nitrogen-fixing pea root nodules by Rhizobium leguminosarum. Some of the nodulation genes are involved in recognition of chemical signals produced by the plant root, and others are required for production of chemical signals recognized by the plant. pRL1JI also contains a regulatory gene, rhiR, that is homologous to luxR, the transcriptional activator of luminescence genes in Vibrio fischeri. LuxR requires a signal compound, an ***autoinducer*** , for its activity. We have identified an R. leguminosarum ***autoinducer*** that, together with RhiR, is required to activate both the rhizosphere-expressed rhiABC operon and a growth-inhibiting function encoded by pRL1JI. This intercellular signal is an N-acylated homoserine lactone structurally related to the V. fischeri and other ***autoinducers*** . These findings indicate a new level of intercellular communication in root nodule formation.

L4 ANSWER 6 OF 10 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1996:260139 BIOSIS
DN PREV199698816268
TI Identification of multiple ***autoinducer*** signals in Rhizobium leguminosarum.
AU ***Gray, Kendall M.***
CS Univ. South Fla., Tampa, FL USA
SO Abstracts of the General Meeting of the American Society for Microbiology, (1996) Vol. 96, No. 0, pp. 309.
Meeting Info.: 96th General Meeting of the American Society for Microbiology New Orleans, Louisiana, USA May 19-23, 1996
ISSN: 1060-2011.
DT Conference
LA English

L4 ANSWER 7 OF 10 CAPLUS COPYRIGHT 2003 ACS
AN 1994:475099 CAPLUS
DN 121:75099
TI Interchangeability and specificity of component from the quorum-sensing regulatory systems of Vibrio fischeri and Pseudomonas ***aeruginosa***
AU ***Gray, Kendall M.*** ; Paasador, Luciano; Iglewski, Barbara H.; Greenberg, E. P.
CS Dep. Microbiol., Univ. Iowa, Iowa City, IA, 52242, USA
SO Journal of Bacteriology (1994), 176(10), 3076-80
CODEN: JOBAAY; ISSN: 0021-9193
DT Journal
LA English
AB ***Autoinduction*** is a conserved mechanism of cell d.-dependent gene regulation that occurs in a variety of gram-neg. bacteria.
Autoinducible luminescence in Vibrio fischeri requires a transcriptional activator, LuxR, while a LuxR homolog, LasR, activates elastase expression in Pseudomonas ***aeruginosa*** . Both LuxR and LasR require specific signal mols., called ***autoinducers*** , for activity. The authors show here the activation in Escherichia coli of the V. fischeri luminescence (lux) operon by LasR and of the P. ***aeruginosa*** elastase gene (lasB) by LuxR when each is in the presence of its cognate ***autoinducer*** . Neither LuxR nor LasR

showed appreciable activity with the heterologous V. fischeri or P. ***aeruginosa*** ***autoinducer*** . This supports the view that there is a direct interaction of each transcriptional activator with its proper ***autoinducer*** and suggests that there are conserved, ***autoinduction*** -related elements within the promoter regions of these genes.

L4 ANSWER 8 OF 10 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 5
AN 1994.126275 BIOSIS
DN PREV199497139275
TI Structure of the ***autoinducer*** required for expression of Pseudomonas ***aeruginosa*** virulence genes.
AU Pearson, James P.; ***Gray, Kendall M.*** ; Passador, Luciano; Tucker, Kenneth D.; Eberhard, Anatol; Iglewski, Barbara H.; Greenberg, E. P. (1)
CS (1) Dep. Microbiol., Univ. Iowa, Iowa City, IA 52242 USA
SO Proceedings of the National Academy of Sciences of the United States of America, (1994) Vol. 91, No. 1, pp. 197-201.
ISSN: 0027-8424.
DT Article
LA English
AB In Pseudomonas ***aeruginosa*** the LasR protein is required for activation of lasB and several other virulence genes. A diffusible signal molecule, the P. ***aeruginosa*** ***autoinducer*** (PAI), produced by the bacterial cell and released into the growth medium, is required for activity of LasR. By cloning a lasB::lacZ fusion and a lasR gene under control of the Lac promoter in Escherichia coli, we have developed a quantitative bioassay for PAI. We have used this assay to follow the purification of PAI from cell-free culture supernatant fluids in which P. ***aeruginosa*** or E. coli containing the P. ***aeruginosa*** gene required for ***autoinducer*** synthesis, lasI, had been grown. Chemical analyses indicated the purified material was 3-oxoN-(tetrahydro-2-oxo-3-furanyl)dodecanamide. To confirm this assignment, the compound was synthesized and the synthetic compound was shown to have chemical and biological properties identical to those of PAI purified from culture supernatant fluids. The elucidation of the PAI structure suggests therapeutic approaches toward control of P. ***aeruginosa*** infections.

L4 ANSWER 9 OF 10 CAPLUS COPYRIGHT 2003 ACS
AN 1992 464142 CAPLUS
DN 117:64142
TI Physical and functional maps of the luminescence gene cluster in an ***autoinducer*** -deficient Vibrio fischeri strain isolated from a squid light organ
AU ***Gray, Kendall M.*** ; Greenberg, E. P.
CS Coll. Med., Univ. Iowa, Iowa City, IA, 52242, USA
SO Journal of Bacteriology (1992), 174(13), 4384-90
CODEN: JOBAAY; ISSN: 0021-9193
DT Journal
LA English
AB V. fischeri ES114 is an isolate representing the specific bacterial light organ symbiont of the squid Euprymna scolopes. An interesting feature of this strain of V. fischeri is that it is visibly luminous within the light organ of the squid host but is nonluminous when grown under std. lab.

conditions. Luminescence can be restored in lab. culture, however, by the addn. of ***autoinducer*** , a species-specific inducer of the V. fischeri luminescence (lux) genes. Most other isolates of V. fischeri produce ***autoinducer*** in sufficient quantities to induce luminescence in lab. culture. The authors have cloned an 8.8-kb DNA fragment from V. fischeri ES114 that encodes all of the functions necessary for luminescence in Escherichia coli in the absence of exogenous ***autoinducer*** . This DNA contains both of the recognized V. fischeri lux regulatory genes, one of which (luxI) directs E. coli to synthesize ***autoinducer*** . The organization of the individual lux genes within this DNA fragment appears to be the same as that in the other strains of V. fischeri studied; the restriction map of the V. fischeri ES114 lx DNA has diverged substantially, however, from the largely conserved maps of V. fischeri MJ1 and ATCC 7744. Although E. coli contg. the V. fischeri ES114 lx DNA synthesizes considerable amts. of ***autoinducer*** , V. fischeri ES114 synthesizes ***autoinducer*** only in small amts., even when transcription of the lux genes, including luxI, is activated by the addn. of exogenous ***autoinducer*** . Nonetheless, transconjugants of V. fischeri ES114 that contain multicopy plasmids bearing the ES114 lx genes synthesize sufficient ***autoinducer*** to induce luminescence. These results suggest that V. fischeri ES114 does not lack a functional luxI, nor is it deficient in the ability to synthesize metabolic precursors for ***autoinducer*** synthesis.

L4 ANSWER 10 OF 10 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 6
AN 1995:124363 BIOSIS
DN PREV199598138663
TI Sequencing and analysis of luxR and luxI, the luminescence regulatory genes from the squid light organ symbiont Vibrio fischeri ES114.
AU ***Gray, Kendall M.*** ; Greenberg, E. P. (1)
CS (1) Dep. Microbiol., Coll. Med., Univ. Iowa, Iowa City, IA 52242 USA
SO Molecular Marine Biology and Biotechnology, (1992) Vol. 1, No. 6, pp. 414-419.
ISSN: 1053-6426.
DT Article
LA English
AB The luminescence regulon of Vibrio fischeri consists of eight lux genes arranged in two divergently transcribed units (luxR and luxICDABEG). Activation of the luxICDABEG operon requires the interaction of the luxR product with a metabolite called ***autoinducer*** , which is synthesized by the product of luxI. Unlike most isolates of V. fischeri, the squid light organ symbiont V. fischeri ES114 synthesizes insufficient ***autoinducer*** to activate luxICDABEG expression in laboratory culture. Previous analyses have shown that V. fischeri MJ1 and ATCC 7744 share 98% DNA sequence identity for the region including luxR, luxI, and the intervening sequence. The corresponding region of lux DNA from V. fischeri ES114 shows substantial sequence divergence, such that the products encoded by luxR and luxI are 74 and 89% identical, respectively, to those of V. fischeri MJ1 and ATCC 7744. The region between luxI and luxR in V. fischeri ES114 displays several novel features, including altered Shine-Dalgarno regions for both genes, and the occurrence of a previously unidentified 7-bp inverted repeat in the luxR promoter region. These results indicate that the lux regulon of V. fischeri ES114 is less closely related to those of either MJ1 or ATCC 7744 than the two are to

each other. This analysis also provides possible explanations for the limited ***autoinducer*** synthesis of strain ES114 and allows new insights into the specific regions critical to the function of LuxR and LuxI and to the regulation of V. fischeri luminescence.

```
--> e passador luciano/au
E1        85    PASSADOR L/AU
E2         1    PASSADOR L H/AU
E3        43 --> PASSADOR LUCIANO/AU
E4         3    PASSADOR M C/AU
E5        11    PASSADOR S/AU
E6         6    PASSADOR S T/AU
E7         1    PASSADOR SH/AU
E8         5    PASSADOR SHERRY/AU
E9         2    PASSADOR SHERRY T/AU
E10        2    PASSADOR SHERRY TING/AU
E11        2    PASSADORE ALBERT M/AU
E12        6    PASSADORE C/AU

=> s e1-e3 and (aerugin? or autoinduc?)
L5        96 ("PASSADOR L"/AU OR "PASSADOR L H"/AU OR "PASSADOR LUCIANO"/AU)
             AND (AERUGIN? OR AUTOINDUC?)

=> dup rem l5
PROCESSING COMPLETED FOR L5
L6        26 DUP REM L5 (70 DUPLICATES REMOVED)

=> d bib ab 1-
YOU HAVE REQUESTED DATA FROM 26 ANSWERS - CONTINUE? Y/(N):y

L6  ANSWER 1 OF 26  BIOSIS  COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE
    1
AN  2003:185439  BIOSIS
DN  PREV200300185439
TI  Microarray analysis of Pseudomonas  ***aeruginosa***  quorum-sensing
    regulons: Effects of growth phase and environment.
AU  Wagner, Victoria E.; Bushnell, Daniel;  ***Passador, Luciano***  ;
    Brooks, Andrew I.; Iglewski, Barbara H. (1)
CS  (1) Department of Microbiology and Immunology, University of Rochester
    School of Medicine and Dentistry, Box 672, Rochester, NY, 14642, USA:
    bigl@mail.rochester.edu USA
SO  Journal of Bacteriology, (April 2003, 2003) Vol. 185, No. 7, pp.
    2080-2095. print.
    ISSN: 0021-9193.
DT  Article
LA  English
AB  Bacterial communication via quorum sensing (QS) has been reported to be
    important in the production of virulence factors, antibiotic sensitivity,
    and biofilm development. Two QS systems, known as the las and rhl systems,
    have been identified previously in the opportunistic pathogen Pseudomonas
     ***aeruginosa***  . High-density oligonucleotide microarrays for the P.
     ***aeruginosa***  PAO1 genome were used to investigate global gene
    expression patterns modulated by QS regulons. In the initial experiments
    we focused on identifying las and or rhl QS-regulated genes using a QS
```

signal generation-deficient mutant (PAO-JP2) that was cultured with and without added exogenous ***autoinducers*** (N-(3-oxododecanoyl) homoserine lactone and N-butyryl homoserine lactone). Conservatively, 616 genes showed statistically significant differential expression (P ltoreq 0.05) in response to the exogenous ***autoinducers*** and were classified as QS regulated. A total of 244 genes were identified as being QS regulated at the mid-logarithmic phase, and 450 genes were identified as being QS regulated at the early stationary phase. Most of the previously reported QS-promoted genes were confirmed, and a large number of additional QS-promoted genes were identified. Importantly, 222 genes were identified as being QS repressed. Environmental factors, such as medium composition and oxygen availability, eliminated detection of transcripts of many genes that were identified as being QS regulated.

L6 ANSWER 2 OF 26 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 2
AN 2002:464710 BIOSIS
DN PREV200200464710
TI LasR, a transcriptional activator of Pseudomonas ***aeruginosa*** virulence genes, functions as a multimer.
AU Kiratisin, Pattarachai; Tucker, Kenneth D.; ***Passador, Luciano (1)***
CS (1) Department of Microbiology and Immunology, University of Rochester Medical Center, Box 672, Rochester, NY, 14642: lopr@uhura.cc.rochester.edu USA
SO Journal of Bacteriology, (September, 2002) Vol. 184, No. 17, pp. 4912-4919. http://intl-jb.asm.org/. print.
ISSN: 0021-9193.
DT Article
LA English
AB The Pseudomonas ***aeruginosa*** LasR protein functions in concert with N-3-oxo-dodecanoyl-L-homoserine lactone (3O-C12-HSL) to coordinate the expression of target genes, including many genes that encode virulence factors, with cell density. We used a LexA-based protein interaction assay to demonstrate that LasR forms multimers only when 3O-C12-HSL is present. A series of LasR molecules containing internal deletions or substitutions in single, conserved amino acid residues indicated that the N-terminal portion of LasR is required for multimerization. Studies performed with these mutant versions of LasR demonstrated that the ability of LasR to multimerize correlates with its ability to function as a transcriptional activator of lasI, a gene known to be tightly regulated by the LasR-3O-C12-HSL regulatory system. A LasR molecule that carries a C-terminal deletion can function as a dominant-negative mutant in P. ***aeruginosa*** , as shown by its ability to decrease expression of lasB, another LasR-3O-C12-HSL target gene. Taken together, our data strongly support the hypothesis that LasR functions as a multimer in vivo.

L6 ANSWER 3 OF 26 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 3
AN 2003:101227 CAPLUS
DN 138:300207
TI Role of ***autoinducers*** in gene regulation and virulence of Pseudomonas ***aeruginosa***
AU ***Passador, Luciano***
CS Department of Microbiology and Immunology, University of Rochester Medical Center, Rochester, NY, 14642, USA
SO Methods in Enzymology (2002), 358(Bacterial Pathogenesis, Part C), 427-451

CODEN: MENZAU; ISSN: 0076-6879
PB Elsevier Science
DT Journal; General Review
LA English
AB A review. The ***autoinducer*** mols. produced by the opportunistic human pathogen Pseudomonas ***aeruginosa*** and their involvement in gene regulation and virulence of this organism is discussed. Several methods for identifying the prodn. of various acylated homoserine lactone compds. by bacteria are discussed. These methods range from simple bioassays to more rigid biochem. and biophys. characterizations. (c) 2002 Academic Press.
RE.CNT 78 THERE ARE 78 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 26 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 4
AN 2000:542087 BIOSIS
DN PREV200000542087
TI ***Autoinducer*** molecule.
AU Pearson, James P. (1); Gray, Kendall M.; ***Passador, Luciano*** ; Tucker, Kenneth D.; Eberhard, Anatol; Iglewski, Barbara H.; Greenberg, Everett P.
CS (1) Iowa City, IA USA
ASSIGNEE: University of Iowa, Iowa City, IA, USA; University of Rochester; Ithaca College, Ithaca, NY, USA
PI US 6057288 May 02, 2000
SO Official Gazette of the United States Patent and Trademark Office Patents, (May 2, 2000) Vol. 1234, No. 1, pp. No pagination. e-file.
ISSN: 0098-1133.
DT Patent
LA English
AB ***Autoinducer*** molecules, e.g., N-(3-oxododecanoyl)homoserine lactone, for Pseudomonas ***aeruginosa*** are described. The molecules regulate gene expression in the bacterium. Therapeutic compositions and therapeutic methods involving analogs and or inhibitors of the ***autoinducer*** molecules also are described. The molecules are useful for treating or preventing infection by Pseudomonas ***aeruginosa*** .

L6 ANSWER 5 OF 26 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 5
AN 2000:441734 BIOSIS
DN PREV200000441734
TI Polyphosphate kinase is essential for biofilm development, quorum sensing, and virulence of Pseudomonas ***aeruginosa*** .
AU Rashid, M. Harunur; Rumbaugh, Kendra; ***Passador, Luciano*** ; Davies, David G.; Hamood, Abdul N.; Iglewski, Barbara H.; Kornberg, Arthur (1)
CS (1) Department of Biochemistry, Stanford University School of Medicine, Stanford, CA, 94305-5307 USA
SO Proceedings of the National Academy of Sciences of the United States of America, (August 15, 2000) Vol. 97, No. 17, pp. 9636-9641. print.
ISSN: 0027-8424.
DT Article
LA English
SL English
AB The human opportunistic pathogen Pseudomonas ***aeruginosa*** causes a

variety of infections in immunocompromised hosts and in individuals with cystic fibrosis. A knockout mutation in the polyphosphate kinase (ppk) gene, encoding PPK responsible for the synthesis of inorganic polyphosphate from ATP, renders P. ***aeruginosa*** cells unable to form a thick and differentiated biofilm. The mutant is aberrant in quorum sensing and responses in that production of the quorum-sensing controlled virulence factors elastase and rhamnolipid are severely reduced. In a burned-mouse pathogenesis model, the virulence of the mutant is greatly reduced with severe defects in the colonization of mouse tissues. The conservation of PPK among many bacterial pathogens and its absence in eukaryotes suggest that PPK might be an attractive target for antimicrobial drugs.

L6 ANSWER 6 OF 26 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 6
AN 2000:92515 BIOSIS
DN PREV200000092515
TI Novel synthetic analogs of the Pseudomonas ***autoinducer*** .
AU Kline, T. (1); Bowman, J.; Iglewski, B. H.; de Kievit, T.; Kakai, Y.; ***Passador, L.***
CS (1) PathoGenesis Corporation, Seattle, WA, 98119 USA
SO Bioorganic & Medicinal Chemistry Letters, (Dec. 20, 1999) Vol. 9, No. 24, pp. 3447-3452.
ISSN: 0960-894X.
DT Article
LA English
SL English
AB Release of virulence factors in Pseudomonas ***aeruginosa*** is regulated by two N-acylhomoserine lactones, PAI-1 and PAI-2, that activate the respective transcription factors LasR and Rh1R. With the goal of developing novel therapeutic agents, we synthesized constrained analogs of PAI-1 and evaluated them in P. ***aeruginosa*** . Two of the novel analogs bound to LasR and showed agonist activity in LasR stimulation of a lasI-lacZ reporter construct.

L6 ANSWER 7 OF 26 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 7
AN 1999:212353 BIOSIS
DN PREV199900212353
TI RsaL, a novel repressor of virulence gene expression in Pseudomonas ***aeruginosa*** .
AU De Kievit, Teresa; Seed, Patrick C.; Nezezon, Jonathon; ***Passador,*** *** Luciano*** ; Iglewski, Barbara H. (1)
CS (1) Department of Microbiology and Immunology, University of Rochester Medical Center, Rochester, NY, 14642 USA
SO Journal of Bacteriology, (April, 1999) Vol. 181, No. 7, pp. 2175-2184.
ISSN: 0021-9193.
DT Article
LA English
SL English
AB As components of a Pseudomonas ***aeruginosa*** quorum-sensing system, LasR and PAI-1 globally regulate expression of multiple virulence determinants, as well as the second P. ***aeruginosa*** quorum-sensing system. To date, no information exists on negative regulation of the quorum-sensing cascade in P. ***aeruginosa*** . Here we describe a

novel gene, rsaL, which is located downstream from lasR and transcribed antisense relative to lasR. In P. ***aeruginosa*** , overexpression of rsaL results in reduced lasB expression and decreased elastase activity. With the use of a six-His protein fusion system, we demonstrate that rsaL encodes an 11-kDa protein. Direct quantitation of PAI-1 levels in cultures and studies utilizing Escherichia coli lambda lysogens carrying lacZ transcriptional fusions reveal that RsaL specifically represses transcription of the PAI-1 ***autoinducer*** synthase gene, lasI. RsaL's repressive effect on lasI and the associated decrease in elastase activity have important implications for the expression of all LasR-PAI-1-dependent virulence genes and the overall pathogenicity of P. ***aeruginosa*** .

L6 ANSWER 8 OF 26 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 8

AN 2000:84330 BIOSIS

DN PREV200000084330

TI Quorum sensing in Pseudomonas ***aeruginosa*** controls expression of catalase and superoxide dismutase genes and mediates biofilm susceptibility to hydrogen peroxide.

AU Hassett, Daniel J. (1); Ma, Ju-Fang; Elkins, James G.; McDermott, Timothy R.; Ochsner, Urs A.; West, Susan E. H.; Huang, Ching-Tsan; Fredericks, Jessie; Burnett, Scott; Stewart, Philip S.; McFeters, Gordon; ***Passador, Luciano*** ; Iglewski, Barbara H.

CS (1) Department of Molecular Genetics, Biochemistry and Microbiology, University of Cincinnati College of Medicine, 231 Bethesda Avenue, Cincinnati, OH, 45257-0524 USA

SO Molecular Microbiology, (Dec., 1999) Vol. 34, No. 5, pp. 1082-1093. ISSN: 0950-382X.

DT Article

LA English

SL English

AB Quorum sensing (QS) governs the production of virulence factors and the architecture and sodium dodecyl sulphate (SDS) resistance of biofilm-grown Pseudomonas ***aeruginosa*** . P. ***aeruginosa*** QS requires two transcriptional activator proteins known as LasR and RhlR and their cognate ***autoinducers*** PAI-1 (N-(3-oxododecanoyl)-L-homoserine lactone) and PAI-2 (N-butyryl-L-homoserine lactone) respectively. This study provides evidence of QS control of genes essential for relieving oxidative stress. Mutants devoid of one or both ***autoinducers*** were more sensitive to hydrogen peroxide and phenazine methosulphate, and some PAI mutant strains also demonstrated decreased expression of two superoxide dismutases (SODs), Mn-SOD and Fe-SOD, and the major catalase, KatA. The expression of sodA (encoding Mn-SOD) was particularly dependent on PAI-1, whereas the influence of ***autoinducers*** on Fe-SOD and KatA levels was also apparent but not to the degree observed with Mn-SOD. beta-Galactosidase reporter fusion results were in agreement with these findings. Also, the addition of both PAIs to suspensions of the PAI-1 2-deficient double mutant partially restored KatA activity, while the addition of PAI-1 only was sufficient for full restoration of Mn-SOD activity. In biofilm studies, catalase activity in wild-type bacteria was significantly reduced relative to planktonic bacteria; catalase activity in the PAI mutants was reduced even further and consistent with relative differences observed between each strain grown planktonically. While wild-type and mutant biofilms contained less catalase activity, they were

more resistant to hydrogen peroxide treatment than their respective planktonic counterparts. Also, while catalase was implicated as an important factor in biofilm resistance to hydrogen peroxide insult, other unknown factors seemed potentially important, as PAI mutant biofilm sensitivity appeared not to be incrementally correlated to catalase levels.

L6 ANSWER 9 OF 26 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1999:342024 BIOSIS
DN PREV199900342024
TI Analysis of the expression of rsaL, a negative regulator of quorum sensing in Pseudomonas ***aeruginosa*** .
AU Kiratisin, P. (1); ***Passador, L. (1)***
CS (1) University of Rochester Medical Center, Rochester, NY USA
SO Abstracts of the General Meeting of the American Society for Microbiology, (1999) Vol. 99, pp. 217.
Meeting Info.: 99th General Meeting of the American Society for Microbiology Chicago, Illinois, USA May 30-June 3, 1999 American Society for Microbiology
. ISSN: 1060-2011.
DT Conference
LA English

L6 ANSWER 10 OF 26 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 9
AN 1998:510300 BIOSIS
DN PREV199800510300
TI Influence of the MexAB-OprM multidrug efflux system on quorum sensing in Pseudomonas ***aeruginosa*** .
AU Evans, Kelly; ***Passador, Luciano*** ; Srikumar, Ramakrishnan; Tsang, Eric; Nezezon, Jonathon; Poole, Keith (1)
CS (1) Dep. Microbiol. Immunol., Queen's Univ., Kingston, ON K7L 3N6 Canada
SO Journal of Bacteriology, (Oct., 1998) Vol. 180, No. 20, pp. 5443-5447.
ISSN: 0021-9193.
DT Article
LA English
AB Pseudomonas ***aeruginosa*** nalB mutants which hyperexpress the MexAB-OprM multidrug efflux system produce reduced levels of several extracellular virulence factors known to be regulated by quorum sensing. Such mutants also produce less acylated homoserine lactone ***autoinducer*** PAI-1, consistent with an observed reduction in lasI expression. These data suggest that PAI-1 is a substrate for MexAB-OprM, and its resulting exclusion from cells hyperexpressing MexAB-OprM limits PAI-1-dependent activation of lasI and the virulence genes.

L6 ANSWER 11 OF 26 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1998:415543 BIOSIS
DN PREV199800415543
TI Quorum-sensing and the MexAB-OprM multidrug efflux system of Pseudomonas ***aeruginosa*** .
AU Evans, K. (1); ***Passador, L.*** ; Srikumar, R. (1); Iglewski, B. H.; Poole, K. (1)
CS (1) Queen's Univ., Kingston, ON Canada
SO Abstracts of the General Meeting of the American Society for Microbiology, (1998) Vol. 98, pp. 49.

Meeting Info.: 98th General Meeting of the American Society for Microbiology Atlanta, Georgia, USA May 17-21, 1998 American Society for Microbiology
. ISSN: 1060-2011.
DT Conference
LA English

L6 ANSWER 12 OF 26 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 10
AN 1997:49297 CAPLUS
DN 126:155048
TI ***Autoinducer*** molecule
IN Pearson, James P.; Gray, Kendall M.; ***Passador, Luciano*** ; Tucker, Kenneth D.; Eberhard, Anatol; Iglewski, Barbara H.; Greenberg, Everett P.
PA The University of Iowa Research Foundation, USA
SO U.S., 12 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5591872	A	19970107	US 1993-104487	19930809
US 6057288	A	20000502	US 1995-456864	19950601

PRAI US 1993-104487 19930809
OS MARPAT 126:155048
AB ***Autoinducer*** mols., e.g., N-(3-oxododecanoyl)homoserine lactone, for Pseudomonas ***aeruginosa*** are described. The mols. regulate gene expression in the bacterium. Therapeutic compns. and therapeutic methods involving analogs and/or inhibitors of the ***autoinducer*** mols. also are described. The mols. are useful for treating or preventing infection by Pseudomonas ***aeruginosa*** .

L6 ANSWER 13 OF 26 LIFESCI COPYRIGHT 2003 CSA
AN 1998:104472 LIFESCI
TI ADP-ribosylating toxins
AU ***Passador, L.*** ; Iglewski, W.
CS Department of Microbiology and Immunology, University of Rochester School of Medicine and Dentistry, Rochester, New York 14642, USA
SO Selected Methods in Enzymology., (19970800) 827 pp. Academic Press, Inc.. 525 B St.. Price $79.95..
ISBN: 0121754650.
DT Book
FS J; X
LA English
AB The transfer of the ADP-ribosyl moiety of NAD to GTP-binding proteins is a common theme in the mechanism of several bacterial toxins. Toxins capable of carrying out ADP-ribosylation include the cholera toxin of Vibrio cholerae, diphtheria toxin (DT) of Corynebacterium diphtheriae, the exotoxin A of Pseudomonas ***aeruginosa*** , pertussis toxin of Bordetella pertussis, and the heat-labile enterotoxin (LT) of Escherichia coli. In addition, exoenzyme S of P. ***aeruginosa*** , the C2 toxin of Clostridium botulinum, and the iota toxin of C. perfringens are also capable of ADP-ribosyltransferase activity although the substrates (vimentin, nonmuscle actin, and actin, respectively), while not GTP-binding proteins, share a common role in formation of filaments in the

eukaryotic cell. Thus it appears that the use of ADP-ribosylation by toxins is a common mechanism in bacterial pathogenesis. This chapter contains a short overview on the structure and biology of each toxin and presents a method for the measurement of the ADP-ribosyltransferase activity of the toxin. The assay presented for each toxin is not intended to be the definitive assay. It is presented as just one possibility to assay ADP-ribosyltransferase activity and for contrast of similarities and differences between the toxins. This work is intended to bring together assays for the majority of the well-known ADP-ribosylating toxins and to provide a starting point in studies of toxins which might be related to this group.

L6 ANSWER 14 OF 26 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 11
AN 1996:537159 BIOSIS
DN PREV199699259515
TI Functional analysis of the Pseudomonas ***aeruginosa*** ***autoinducer*** PAI.
AU ***Passador, Luciano*** ; Tucker, Kenneth D.; Guertin, Kevin R.; Journet, Michel P.; Kende, Andrew S.; Iglewski, Barbara H. (1)
CS (1) Dep. Microbiol. Immunol., Univ. Rochester, Rochester, NY 14642 USA
SO Journal of Bacteriology, (1996) Vol. 178, No. 20, pp. 5995-6000. ISSN: 0021-9193.
DT Article
LA English
AB A series of structural analogs of the Pseudomonas ***aeruginosa*** ***autoinducer*** (PAI, N-3-oxo-dodecanoyl homoserine lactone) were obtained and tested for their ability to act as ***autoinducers*** in stimulating the expression of the gene for elastase (lasB) by measuring beta-galactosidase production from a lasB-lacZ gene fusion in the presence of the transcriptional activator LasR. The data suggest that the length of the acyl side chain of the ***autoinducer*** molecule is the most critical factor for activity. Replacement of the ring O by S in the homoserine lactone moiety can be tolerated. Tritium-labelled PAI ((3H)PAI) was synthesized and used to demonstrate the association of (3H)PAI with cells overexpressing LasR. The PAI analogs were also tested for their ability to compete with (3H)PAI for binding of LasR. Results from the competition assays suggest that once again the length of the acyl side chain appears to be crucial for antagonist activity. The presence of the 3-oxo moiety also plays a significant role in binding since analogs which lacked this moiety were much less effective in blocking binding of (3H)PAI. All analogs demonstrating competition with PAI in binding to LasR also exhibited the ability to activate lasB expression, suggesting that they are functional analogs of PAI.

L6 ANSWER 15 OF 26 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1996:259306 BIOSIS
DN PREV199698815435
TI Localization of the ***autoinducer*** -binding and DNA-binding domains of the Pseudomonas ***aeruginosa*** transcriptional activator LasR.
AU ***Passador, L. (1)*** ; Tucker, K. D.; Kuhnert, W.; Iglewski, B. H.
CS (1) Univ. Rochester, Rochester, NY 14642 USA
SO Abstracts of the General Meeting of the American Society for Microbiology, (1996) Vol. 96, No. 0, pp. 160.
Meeting Info.: 96th General Meeting of the American Society for

Microbiology New Orleans, Louisiana, USA May 19-23, 1996
ISSN: 1060-2011.
DT Conference
LA English

L6 ANSWER 16 OF 26 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1995:519439 BIOSIS
DN PREV199598533739
TI Quorum sensing and virulence gene regulation in Pseudomonas ***aeruginosa*** .
AU ***Passador, Luciano*** ; Iglewski, Barbara H.
CS Dep. Microbiol. Immunol., Univ. Rochester Med. Center, Box 672, Rochester, NY 14642 USA
SO Roth, J. A. [Editor]; Bolin, C. A. [Editor]; Brogden, K. A. [Editor]; Minion, F. C. [Editor]; Wannemuehler, M. J. [Editor]. (1995) pp. 65-78.
Virulence mechanisms of bacterial pathogens, Second edition.
Publisher: American Society for Microbiology (ASM) Books Division, 1325 Massachusetts Ave. NW, Washington, DC 20005-4171, USA.
Meeting Info.: International Symposium Ames, Iowa, USA June 6-8, 1994
ISBN: 1-55581-085-3.
DT Book; Conference
LA English

L6 ANSWER 17 OF 26 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 12
AN 1995:205513 BIOSIS
DN PREV199598219813
TI A second N-acylhomoserine lactone signal produced by Pseudomonas ***aeruginosa*** .
AU Pearson, James P. (1); ***Passador, Luciano*** ; Iglewski, Barbara H.; Greenberg, E. P.
CS (1) Dep. Microbiol. Immunol., Univ. Rochester, Rochester, NY 14642 USA
SO Proceedings of the National Academy of Sciences of the United States of America, (1995) Vol. 92, No. 5, pp. 1490-1494.
ISSN: 0027-8424.
DT Article
LA English
AB Quorum sensing systems are used by a number of Gram-negative bacterial species to regulate specific sets of genes in a cell density-dependent manner. Quorum sensing involves synthesis and detection of extracellular signals termed ***autoinducers*** . As shown in recombinant Escherichia coli, the Pseudomonas ***aeruginosa*** ***autoinducer*** (PAI) N-(3-oxododecanoyl)homoserine lactone, together with the lasR gene product, activate the P. ***aeruginosa*** lasB gene. In this study, PAI was shown to activate lasB-lacZ expression in a P. ***aeruginosa*** lasR mutant containing a plasmid with lasR under the control of the lac promoter. The concentration of PAI necessary for half-maximal activation of the lasB-lacZ fusion was apprxeq 1 mu-M, which is within the range of PAZ levels found in P. ***aeruginosa*** culture fluids. The effect of PAI on a P. ***aeruginosa*** lasR mutant containing a plasmid with lasR under the control of its own promoter and containing the lasB-lacZ fusion was also tested. Although extracts of culture fluid activated the lasB promoter in this construct, concentrations of PAI as high as 10 mu-M did not. This indicates the presence of a second extracellular factor (factor 2) that is required for lasB activation in P. ***aeruginosa***

when lasR is controlled by its own promoter but not when lasR is controlled by a strong foreign promoter. Factor 2 was shown to be N-butyrylhomoserine lactone. Although recombinant E. coli cells containing the PAI synthase gene, lasI, produce PAI, these cells do not produce factor 2. Furthermore, a P. ***aeruginosa*** mutant that produced about 0.1% of the wild-type level of PAI made about 5% of the wild-type level of factor 2. This indicates that factor 2 synthesis results from the activity of a gene product other than PAI synthase. The role of factor 2 in virulence gene regulation remains to be determined, but this compound may affect the expression of lasR, which in turn activates transcription of numerous virulence genes in the presence of sufficient PAI. Apparently, multiple quorum sensing systems can occur and interact with each other in a single bacterial species.

L6 ANSWER 18 OF 26 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 13

AN 1995:124296 BIOSIS

DN PREV199598138596

TI Activation of the Pseudomonas ***aeruginosa*** lasI Gene by LasR and the Pseudomonas ***Autoinducer*** PAI: An ***Autoinduction*** Regulatory Hierarchy.

AU Seed, Patrick C.; ***Passador, Luciano*** ; Iglewski, Barbara H. (1)

CS (1) Dep. Micorbiol. Immunol., Univ. Rochester, 601 Elmwood Ave., Rochester, NY 14642 USA

SO Journal of Bacteriology, (1995) Vol. 177, No. 3, pp. 654-659. ISSN: 0021-9193.

DT Article

LA English

AB In Pseudomonas ***aeruginosa*** , the transcriptional activator LasR and the Pseudomonas ***autoinducer*** PAI, are necessary for efficient transcriptional activation of the lasB gene, encoding elastase (L. Passador, J. M. Cook, M. J. Gambello, L. Rust, and B. H. Iglewski, Science 260:1127-1130, 1993). The transcriptional start points of lasI in Escherichia coli and P. ***aeruginosa*** were determined by S1 nuclease mapping. In the presence of both LasR and PAI, the start site, T1, is located at position -25 relative to the ATG translational start codon. A minor transcriptional start, T2, is found at position - 13 when lasI is transcribed in the absence of either LasR or PAI in P. ***aeruginosa*** and E. coli, respectively. To begin to closely examine the regulation of lasI, whose product is involved in the synthesis of PAI, a lasI-lacZ fusion on a lambda phage was constructed to form monolysogens of E. coli MG4. Lysogens supplied only with either lasI or lasR via multicopy plasmids demonstrated no significant increase in beta-galactosidase expression compared with control levels. Lysogens in which both lasR and lasI were supplied in multicopy exhibited a 62-fold increase in expression, and a lysogen in which lasR was supplied in trans and which was grown in the presence of exogenous PAI exhibited a 60-fold increase. Thus, LasR and PAI are necessary for the full expression of lasI in E. coli. The interchangeability of the P. ***aeruginosa*** and Vibrio fischeri homologs LasR and LuxR and their respective ***autoinducers*** , PAI and VAI, as activators of lasI-lacZ was examined. Only the combination of LasR and PAI significantly increased the expression of lasI. The comparison of lasI-lacZ and lasB-lacZ expression in lysogens grown in the presence of lasR and PAI revealed that half-maximal expression of lasI required 0.1 nM PAI, in contrast to the

1.0 nM PAI necessary for lasB half-maximal expression. These results suggest an ***autoinduction*** regulatory hierarchy in which LasR and low PAI concentrations primarily activate lasI expression in a regulatory loop. With the accumulation of PAI, secondary activation of virulence product genes such as lasB occurs.

L6 ANSWER 19 OF 26 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1994:414826 BIOSIS
DN PREV199497427826
TI ADP-ribosylating toxins.
AU ***Passador, Luciano (1)*** ; Iglewski, Wallace
CS (1) Dep. Microbiol. Immunol., Univ. Rochester, Sch. Med. Dentistry, Rochester, NY 14642 USA
SO Clark, V. L. [Editor]; Bavoil, P. M. [Editor]. Methods in Enzymology, (1994) Vol. 235, pp. 617-631. Methods in Enzymology; Bacterial pathogenesis, Part A: Identification and regulation of virulence factors. Publisher: Academic Press, Inc. 1250 Sixth Ave., San Diego, California 92101, USA.
ISSN: 0076-6879. ISBN: 0-12-182136-6.
DT Book
LA English

L6 ANSWER 20 OF 26 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 14
AN 1994:270376 BIOSIS
DN PREV199497283376
TI Interchangeability and specificity of components from the quorum-sensing regulatory systems of Vibrio fischeri and Pseudomonas ***aeruginosa***
.
AU Grayh, Kendall M.; ***Passador, Luciano*** ; Iglewski, Barbara H.; Greenberg, E. P. (1)
CS (1) Dep. Microbiol., Univ. Iowa, Iowa City, IA 52242 USA
SO Journal of Bacteriology, (1994) Vol. 176, No. 10, pp. 3076-3080.
ISSN: 0021-9193.
DT Article
LA English
AB ***Autoinduction*** is a conserved mechanism of cell density-dependent gene regulation that occurs in a variety of gram-negative bacteria. ***Autoinducible*** luminescence in Vibrio fischeri requires a transcriptional activator, LuxR, while a LuxR homolog, LasR, activates elastase expression in Pseudomonas ***aeruginosa*** . Both LuxR and LasR require specific signal molecules, called ***autoinducers*** , for activity. We show here the activation in Escherichia coli of the V. fischeri luminescence (lux) operon by LasR and of the P. ***aeruginosa*** elastase gene (lasB) by LuxR when each is in the presence of its cognate ***autoinducer*** . Neither LuxR nor LasR showed appreciable activity with the heterologous V. fischeri or P. ***aeruginosa*** ***autoinducer*** . This supports the view that there is a direct interaction of each transcriptional activator with its proper ***autoinducer*** and suggests that there are conserved, ***autoinduction*** -related elements within the promoter regions of these genes.

L6 ANSWER 21 OF 26 LIFESCI COPYRIGHT 2003 CSA DUPLICATE 15
AN 97 10725 LIFESCI

TI ADP-ribosylating toxins
AU ***Passador, L.*** ; Iglewski, W.
SO METHODS ENZYMOL., (1994) pp. 617-631.
ISSN: 0076-6879.
DT Book
FS X
LA English
AB The transfer of the ADP-ribosyl moiety of NAD to GTP-binding proteins is a common theme in the mechanism of several bacterial toxins. Toxins capable of carrying out ADP-ribosylation include the cholera toxin of Vibrio cholerae, diphtheria toxin (DT) of Corynebacterium diphtheriae, the exotoxin A of Pseudomonas ***aeruginosa*** , pertussis toxin of Bordetella pertussis, and the heat-labile enterotoxin (LT) of Escherichia coli. In addition, exoenzyme S of P. ***aeruginosa*** , the C2 toxin of Clostridium botulinum, and the iota toxin of C. perfringens are also capable of ADP-ribosyltransferase activity although the substrates (vimentin, nonmuscle actin, and actin, respectively), while not GTP-binding proteins, share a common role in formation of filaments in the eukaryotic cell. Thus it appears that the use of ADP-ribosylation by toxins is a common mechanism in bacterial pathogenesis. This chapter contains a short overview on the structure and biology of each toxin and presents a method for the measurement of the ADP-ribosyltransferase activity of the toxin. The assay presented for each toxin is not intended to be the definitive assay. It is presented as just one possibility to assay ADP-ribosyltransferase activity and for contrast of similarities and differences between the toxins. This work is intended to bring together assays for the majority of the well-known ADP-ribosylating toxins and to provide a starting point in studies of toxins which might be related to this group.

L6 ANSWER 22 OF 26 SCISEARCH COPYRIGHT 2003 THOMSON ISI
AN 94:537299 SCISEARCH
GA The Genuine Article (R) Number: BA88R
TI ADP-RIBOSYLATING TOXINS
AU ***PASSADOR L (Reprint)*** ; IGLEWSKI W
CS UNIV ROCHESTER, SCH MED & DENT, DEPT MICROBIOL & IMMUNOL, ROCHESTER, NY, 14642 (Reprint)
CYA USA
SO METHODS IN ENZYMOLOGY, (1994) Vol. 235, pp. 617-631.
ISSN: 0076-6879.
DT General Review; Journal
FS LIFE
LA ENGLISH
REC Reference Count: 38

L6 ANSWER 23 OF 26 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 16
AN 1994:126275 BIOSIS
DN PREV199497139275
TI Structure of the ***autoinducer*** required for expression of Pseudomonas ***aeruginosa*** virulence genes.
AU Pearson, James P.; Gray, Kendall M.; ***Passador, Luciano*** ; Tucker, Kenneth D.; Eberhard, Anatol; Iglewski, Barbara H.; Greenberg, E. P. (1)
CS (1) Dep. Microbiol., Univ. Iowa, Iowa City, IA 52242 USA
SO Proceedings of the National Academy of Sciences of the United States of

America, (1994) Vol. 91, No. 1, pp. 197-201.
ISSN: 0027-8424.
DT Article
LA English
AB In Pseudomonas ***aeruginosa*** the LasR protein is required for activation of lasB and several other virulence genes. A diffusible signal molecule, the P. ***aeruginosa*** ***autoinducer*** (PAI), produced by the bacterial cell and released into the growth medium, is required for activity of LasR. By cloning a lasB::lacZ fusion and a lasR gene under control of the Lac promoter in Escherichia coli, we have developed a quantitative bioassay for PAI. We have used this assay to follow the purification of PAI from cell-free culture supernatant fluids in which P. ***aeruginosa*** or E. coli containing the P. ***aeruginosa*** gene required for ***autoinducer*** synthesis, lasI, had been grown. Chemical analyses indicated the purified material was 3-oxoN-(tetrahydro-2-oxo-3-furanyl)dodecanamide. To confirm this assignment, the compound was synthesized and the synthetic compound was shown to have chemical and biological properties identical to those of PAI purified from culture supernatant fluids. The elucidation of the PAI structure suggests therapeutic approaches toward control of P. ***aeruginosa*** infections.

L6 ANSWER 24 OF 26 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1994:330691 BIOSIS
DN PREV199497343691
TI Use of structural analogs to determine critical features of Pseudomonas ***aeruginosa*** ***autoinducer*** .
AU ***Passador, L. (1)*** ; Pearson, J. P.; Gray, K. M.; Guertin, K.; Kende, A. S.; Greenberg, E. P.; Iglewski, B. H.
CS (1) U. Rochester, Rochester, NY USA
SO Abstracts of the General Meeting of the American Society for Microbiology, (1994) Vol. 94, No. 0, pp. 111.
Meeting Info.: 94th General Meeting of the American Society for Microbiology Las Vegas, Nevada, USA May 23-27, 1994
ISSN: 1060-2011.
DT Conference
LA English

L6 ANSWER 25 OF 26 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 17
AN 1993:321410 BIOSIS
DN PREV199396029760
TI Expression of Pseudomonas ***aeruginosa*** virulence genes requires cell-to-cell communication.
AU ***Passador, Luciano*** ; Cook, James M.; Gambello, Michael J.; Rust, Lynn; Iglewski, Barbara H. (1)
CS (1) Dep. Microbiol. Immunol., Univ. Rochester, Sch. Med. Dent., Rochester, NY 14620 USA
SO Science (Washington D C), (1993) Vol. 260, No. 5111, pp. 1127-1130.
ISSN: 0036-8075.
DT Article
LA English
AB Pseudomonas ***aeruginosa*** is an opportunistic human pathogen that causes a variety of infections in immunocompromised hosts and individuals with cystic fibrosis. Expression of elastase, one of the virulence factors

produced by this organism, requires the transcriptional activator LasR. Experiments with gene fusions show that gene lasI is essential for high expression of elastase. The lasI gene is involved in the synthesis of a diffusible molecule termed Pseudomonas ***autoinducer*** (PAI). PAI provides P. ***aeruginosa*** with a means of cell-to-cell communication that is required for the expression of virulence genes and may provide a target for therapeutic approaches.

L6 ANSWER 26 OF 26 SCISEARCH COPYRIGHT 2003 THOMSON ISI
AN 92:537716 SCISEARCH
GA The Genuine Article (R) Number: JM110
TI REGULATION OF VIRULENCE GENES IN PSEUDOMONAS- ***AERUGINOSA***
AU IGLEWSKI B H (Reprint); ***PASSADOR L*** ; RUST L; COOK J; TODER D; GAMBELLO M J
CS UNIV ROCHESTER, SCH MED, DEPT MICROBIOL & IMMUNOL, ROCHESTER, NY, 14627 (Reprint)
CYA USA
SO PEDIATRIC PULMONOLOGY, (SEP 1992) Supp. 8, pp. 107. ISSN: 8755-6863.
DT Article; Journal
FS CLIN
LA ENGLISH
REC No References

=> e tucker kenneth d/au
E1 1 TUCKER KELVIN FRANK/AU
E2 15 TUCKER KENNETH/AU
E3 32 --> TUCKER KENNETH D/AU
E4 1 TUCKER KENNETH DAVIS/AU
E5 1 TUCKER KENNETH L/AU
E6 1 TUCKER KENNETH R/AU
E7 25 TUCKER KENNETH W/AU
E8 7 TUCKER KENNETH WAYNE/AU
E9 1 TUCKER KENNY/AU
E10 1 TUCKER KERRY/AU
E11 26 TUCKER KERRY LEE/AU
E12 1 TUCKER KEVIN/AU

=> s e2-e4 and (aerugin? or autoinduc?)
L7 12 ("TUCKER KENNETH" AU OR "TUCKER KENNETH D" AU OR "TUCKER KENNETH DAVIS"/AU) AND (AERUGIN? OR AUTOINDUC?)

=> dup rem l7
PROCESSING COMPLETED FOR L7
L8 6 DUP REM L7 (6 DUPLICATES REMOVED)

=> d bib ab 1-
YOU HAVE REQUESTED DATA FROM 6 ANSWERS - CONTINUE? Y (N):y

L8 ANSWER 1 OF 6 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 1
AN 2002:464710 BIOSIS
DN PREV200200464710
TI LasR, a transcriptional activator of Pseudomonas ***aeruginosa*** virulence genes, functions as a multimer.

AU Kiratisin, Pattarachai; ***Tucker, Kenneth D.*** ; Passador, Luciano (1)

CS (1) Department of Microbiology and Immunology, University of Rochester Medical Center, Box 672, Rochester, NY, 14642: lopr@ uhura.cc.rochester.edu USA

SO Journal of Bacteriology, (September, 2002) Vol. 184, No. 17, pp. 4912-4919. http:// intl-jb.asm.org . print.
ISSN: 0021-9193.

DT Article

LA English

AB The Pseudomonas ***aeruginosa*** LasR protein functions in concert with N-3-oxo-dodecanoyl-L-homoserine lactone (3O-C12-HSL) to coordinate the expression of target genes, including many genes that encode virulence factors, with cell density. We used a LexA-based protein interaction assay to demonstrate that LasR forms multimers only when 3O-C12-HSL is present. A series of LasR molecules containing internal deletions or substitutions in single, conserved amino acid residues indicated that the N-terminal portion of LasR is required for multimerization. Studies performed with these mutant versions of LasR demonstrated that the ability of LasR to multimerize correlates with its ability to function as a transcriptional activator of lasI, a gene known to be tightly regulated by the LasR-3O-C12-HSL regulatory system. A LasR molecule that carries a C-terminal deletion can function as a dominant-negative mutant in P. ***aeruginosa*** , as shown by its ability to decrease expression of lasB, another LasR-3O-C12-HSL target gene. Taken together, our data strongly support the hypothesis that LasR functions as a multimer in vivo.

L8 ANSWER 2 OF 6 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 2

AN 2000:542087 BIOSIS

DN PREV200000542087

TI ***Autoinducer*** molecule.

AU Pearson, James P. (1); Gray, Kendall M.; Passador, Luciano; ***Tucker,*** *** Kenneth D.*** ; Eberhard, Anatol; Iglewski, Barbara H.; Greenberg, Everett P.

CS (1) Iowa City, IA USA
ASSIGNEE: University of Iowa, Iowa City, IA, USA; University of Rochester; Ithaca College, Ithaca, NY, USA

PI US 6057288 May 02, 2000

SO Official Gazette of the United States Patent and Trademark Office Patents, (May 2, 2000) Vol. 1234, No. 1, pp. No pagination. e-file.
ISSN: 0098-1133.

DT Patent

LA English

AB ***Autoinducer*** molecules, e.g., N-(3-oxododecanoyl)homoserine lactone, for Pseudomonas ***aeruginosa*** are described. The molecules regulate gene expression in the bacterium. Therapeutic compositions and therapeutic methods involving analogs and or inhibitors of the ***autoinducer*** molecules also are described. The molecules are useful for treating or preventing infection by Pseudomonas ***aeruginosa*** .

L8 ANSWER 3 OF 6 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

AN 1998:438112 BIOSIS

DN PREV199800438112

TI Inactivated whole-cell bacterial vaccines: Current status and novel strategies.

AU Pace, John L. (1); Rossi, Humberto A.; Esposito, Vito M.; Frey, Steve M. (1); ***Tucker, Kenneth D.*** ; Walker, Richard I.
CS (1) Antex Biologics Inc., 300 Professional Drive, Gaithersburg, MD 20879 USA
SO Vaccine, (Oct., 1998) Vol. 16, No. 16, pp. 1563-1574.
ISSN: 0264-410X.
DT Article
LA English
AB Inactivated bacterial whole-cell vaccines have been the most widely studied prophylactic treatment for infectious diseases. They offer an economical, and potentially safe, effective means of preventing disease. The disadvantages of these vaccines have been that parenteral administration, while effective in some instances, may have caused adverse reactions in vaccinees, while oral administration often required high doses and resulted in short-term immunity. More recent studies describing new approaches for improving antigenicity of inactivated whole-cell vaccines and the enhancement of immune responses to oral immunization offer great hope for improving the efficacy of these agents. Promising whole cell vaccines include those against Vibrio cholerae, enterotoxigenic Escherichia coli and more recently Campylobacter jejuni.

L8 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 3
AN 1997:49297 CAPLUS
DN 126:155048
TI ***Autoinducer*** molecule
IN Pearson, James P.; Gray, Kendall M.; Passador, Luciano; ***Tucker,*** *** Kenneth D.*** ; Eberhard, Anatol; Iglewski, Barbara H.; Greenberg, Everett P.
PA The University of Iowa Research Foundation, USA
SO U.S., 12 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 5591872	A	19970107	US 1993-104487	19930809
US 6057288	A	20000502	US 1995-456864	19950601
PRAI US 1993-104487		19930809		

OS MARPAT 126:155048
AB ***Autoinducer*** mols., e.g., N-(3-oxododecanoyl)homoserine lactone, for Pseudomonas ***aeruginosa*** are described. The mols. regulate gene expression in the bacterium. Therapeutic compns. and therapeutic methods involving analogs and/or inhibitors of the ***autoinducer*** mols. also are described. The mols. are useful for treating or preventing infection by Pseudomonas ***aeruginosa*** .

L8 ANSWER 5 OF 6 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 4
AN 1996:537159 BIOSIS
DN PREV199699259515
TI Functional analysis of the Pseudomonas ***aeruginosa*** ***autoinducer*** PAI.
AU Passador, Luciano; ***Tucker, Kenneth D.*** ; Guertin, Kevin R.; Journet, Michel P.; Kende, Andrew S.; Iglewski, Barbara H. (1)
CS (1) Dep. Microbiol. Immunol., Univ. Rochester, Rochester, NY 14642 USA

SO Journal of Bacteriology, (1996) Vol. 178, No. 20, pp. 5995-6000.
ISSN: 0021-9193.
DT Article
LA English
AB A series of structural analogs of the Pseudomonas ***aeruginosa*** ***autoinducer*** (PAI, N-3-oxo-dodecanoyl homoserine lactone) were obtained and tested for their ability to act as ***autoinducers*** in stimulating the expression of the gene for elastase (lasB) by measuring beta-galactosidase production from a lasB-lacZ gene fusion in the presence of the transcriptional activator LasR. The data suggest that the length of the acyl side chain of the ***autoinducer*** molecule is the most critical factor for activity. Replacement of the ring O by S in the homoserine lactone moiety can be tolerated. Tritium-labelled PAI ((3H)PAI) was synthesized and used to demonstrate the association of (3H)PAI with cells overexpressing LasR. The PAI analogs were also tested for their ability to compete with (3H)PAI for binding of LasR. Results from the competition assays suggest that once again the length of the acyl side chain appears to be crucial for antagonist activity. The presence of the 3-oxo moiety also plays a significant role in binding since analogs which lacked this moiety were much less effective in blocking binding of (3H)PAI. All analogs demonstrating competition with PAI in binding to LasR also exhibited the ability to activate lasB expression, suggesting that they are functional analogs of PAI.

L8 ANSWER 6 OF 6 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 5
AN 1994:126275 BIOSIS
DN PREV199497139275
TI Structure of the ***autoinducer*** required for expression of Pseudomonas ***aeruginosa*** virulence genes.
AU Pearson, James P.; Gray, Kendall M.; Passador, Luciano; ***Tucker,*** *** Kenneth D.*** ; Eberhard, Anatol; Iglewski, Barbara H.; Greenberg, E. P. (1)
CS (1) Dep. Microbiol., Univ. Iowa, Iowa City, IA 52242 USA
SO Proceedings of the National Academy of Sciences of the United States of America, (1994) Vol. 91, No. 1, pp. 197-201.
ISSN: 0027-8424.
DT Article
LA English
AB In Pseudomonas ***aeruginosa*** the LasR protein is required for activation of lasB and several other virulence genes. A diffusible signal molecule, the P. ***aeruginosa*** ***autoinducer*** (PAI), produced by the bacterial cell and released into the growth medium, is required for activity of LasR. By cloning a lasB::lacZ fusion and a lasR gene under control of the Lac promoter in Escherichia coli, we have developed a quantitative bioassay for PAI. We have used this assay to follow the purification of PAI from cell-free culture supernatant fluids in which P. ***aeruginosa*** or E. coli containing the P. ***aeruginosa*** gene required for ***autoinducer*** synthesis, lasI, had been grown. Chemical analyses indicated the purified material was 3-oxoN-(tetrahydro-2-oxo-3-furanyl)dodecanamide. To confirm this assignment, the compound was synthesized and the synthetic compound was shown to have chemical and biological properties identical to those of PAI purified from culture supernatant fluids. The elucidation of the PAI structure suggests therapeutic approaches toward control of P. ***aeruginosa*** infections.

=> e eberhard anatol au
E1 7 EBERHARD ALBERT AU
E2 3 EBERHARD ALEXANDRA AU
E3 41 --> EBERHARD ANATOL AU
E4 1 EBERHARD ANATOL E AU
E5 10 EBERHARD ANDRE AU
E6 1 EBERHARD ANDREAS AU
E7 2 EBERHARD ANGELA AU
E8 1 EBERHARD ANKE/AU
E9 5 EBERHARD ANNE AU
E10 1 EBERHARD ANTON A/AU
E11 2 EBERHARD ARNOLD AU
E12 5 EBERHARD B AU

=> s e3-e4 and (aerugin? or autoinduc?)
L9 22 ("EBERHARD ANATOL"/AU OR "EBERHARD ANATOL E"/AU) AND (AERUGIN? OR AUTOINDUC?)

=> dup rem l9
PROCESSING COMPLETED FOR L9
L10 14 DUP REM L9 (8 DUPLICATES REMOVED)

=> d bib ab 1-
YOU HAVE REQUESTED DATA FROM 14 ANSWERS - CONTINUE? Y/(N):y

L10 ANSWER 1 OF 14 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 1
AN 2003:40403 BIOSIS
DN PREV200300040403
TI Quorum sensing controls exopolysaccharide production in Sinorhizobium meliloti.
AU Marketon, Melanie M.; Glenn, Sarah A.; ***Eberhard, Anatol*** ; Gonzalez, Juan E. (1)
CS (1) Department of Molecular and Cell Biology, University of Texas at Dallas, Mail Station FO 3.1, Box 830688, Richardson, TX, 75083-0688, USA: jgonzal@utdallas.edu USA
SO Journal of Bacteriology, (January 2003, 2003) Vol. 185, No. 1, pp. 325-331. print.
ISSN: 0021-9193.
DT Article
LA English
AB Sinorhizobium meliloti is a soil bacterium capable of invading and establishing a symbiotic relationship with alfalfa plants. This invasion process requires the synthesis, by S. meliloti, of at least one of the two symbiotically important exopolysaccharides, succinoglycan and EPS II. We have previously shown that the sinRI locus of S. meliloti encodes a quorum-sensing system that plays a role in the symbiotic process. Here we show that the sinRI locus exerts one level of control through regulation of EPS II synthesis. Disruption of the ***autoinducer*** synthase gene, sinI, abolished EPS II production as well as the expression of several genes in the exp operon that are responsible for EPS II synthesis. This phenotype was complemented by the addition of acyl homoserine lactone (AHL) extracts from the wild-type strain but not from a sinI mutant, indicating that the sinRI-specified AHLs are required for exp gene

expression. This was further confirmed by the observation that synthetic palmitoleyl homoserine lactone (C16:1-HL), one of the previously identified sinRI-specified AHLs, specifically restored exp gene expression. Most importantly, the absence of symbiotically active EPS II in a sinI mutant was confirmed in plant nodulation assays, emphasizing the role of quorum sensing in symbiosis.

L10 ANSWER 2 OF 14 CAPLUS COPYRIGHT 2003 ACS
AN 2002:764148 CAPLUS
DN 138:52472
TI Characterization of the Sinorhizobium meliloti sinR sinI locus and the production of novel N-acyl homoserine lactones
AU Marketon, Melanie M.; Gronquist, Matthew R.; ***Eberhard, Anatol*** ; Gonzalez, Juan E.
CS Department of Molecular and Cell Biology, University of Texas at Dallas, Richardson, TX, 75083-0688, USA
SO Journal of Bacteriology (2002), 184(20), 5686-5695
CODEN: JOBAAY; ISSN: 0021-9193
PB American Society for Microbiology
DT Journal
LA English
AB Sinorhizobium meliloti is a soil bacterium which can establish a nitrogen-fixing symbiosis with the legume Medicago sativa. Recent work has identified a pair of genes, sinR and sinI, which represent a potential quorum-sensing system and are responsible for the prodn. of N-acyl homoserine lactones (AHLs) in two S. meliloti strains, Rm1021 and Rm41. In this work, we characterize the sinRI locus and show that these genes are responsible for the synthesis of several long-chain AHLs ranging from 12 to 18 carbons in length. Four of these, 3-oxotetradecanoyl HL, 3-oxohexadecenoyl HL, hexadecenoyl HL, and octadecanoyl HL, have novel structures. This is the first report of AHLs having acyl chains longer than 14 carbons. We show that a disruption in sinI eliminates these AHLs and that a sinR disruption results in only basal levels of the AHLs. Moreover, the same sinI and sinR mutations also lead to a decrease in the no. of pink nodules during nodulation assays, as well as a slight delay in the appearance of pink nodules, indicating a role for quorum sensing in symbiosis. SinR. We also show that sinI and sinR mutants are still capable of producing several short-chain AHLs, one of which was identified as octanoyl HL. We believe that these short-chain AHLs are evidence of a second quorum-sensing system in Rm1021, which we refer to here as the mel system, for S. meliloti.
RE.CNT 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 3 OF 14 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 2
AN 2000:542087 BIOSIS
DN PREV200000542087
TI ***Autoinducer*** molecule.
AU Pearson, James P. (1); Gray, Kendall M.; Passador, Luciano; Tucker, Kenneth D.; ***Eberhard, Anatol*** ; Iglewski, Barbara H.; Greenberg, Everett P.
CS (1) Iowa City, IA USA
ASSIGNEE: University of Iowa, Iowa City, IA, USA; University of Rochester; Ithaca College, Ithaca, NY, USA

PI US 6057288 May 02, 2000
SO Official Gazette of the United States Patent and Trademark Office Patents, (May 2, 2000) Vol. 1234, No. 1, pp. No pagination. e-file. ISSN: 0098-1133.
DT Patent
LA English
AB ***Autoinducer*** molecules, e.g., N-(3-oxododecanoyl)homoserine lactone, for Pseudomonas ***aeruginosa*** are described. The molecules regulate gene expression in the bacterium. Therapeutic compositions and therapeutic methods involving analogs and or inhibitors of the ***autoinducer*** molecules also are described. The molecules are useful for treating or preventing infection by Pseudomonas ***aeruginosa*** .

L10 ANSWER 4 OF 14 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 2000:519852 BIOSIS
DN PREV200000519852
TI Chemical synthesis of bacterial ***autoinducers*** and analogs.
AU ***Eberhard, Anatol (1)*** ; Schineller, Jeffrey B.
CS (1) Department of Chemistry, Ithaca College, Ithaca, NY, 14850-7279 USA
SO Ziegler, Miriam M.; Baldwin, Thomas O.. Methods in Enzymology, (2000) Vol. 305, pp. 301-315. Methods in Enzymology; Bioluminescence and chemiluminescence, Part C. print.
Publisher: Academic Press Inc. 525 B Street, Suite 1900, San Diego, CA, 92101-4495, USA.
ISSN: 0076-6879. ISBN: 0-12-182206-0 (cloth).
DT Book
LA English
SL English

L10 ANSWER 5 OF 14 CAPLUS COPYRIGHT 2003 ACS
AN 2000:510874 CAPLUS
DN 134:115764
TI Chemical synthesis of bacterial ***autoinducers*** and analogs
AU ***Eberhard, Anatol*** ; Schineller, Jeffrey B.
CS Department of Chemistry, Ithaca College, Ithaca, NY, 14850-7279, USA
SO Methods in Enzymology (2000), 305(Bioluminescence and Chemiluminescence, Pt. C), 301-315
CODEN: MENZAU; ISSN: 0076-6879
PB Academic Press
DT Journal; General Review
LA English
AB A review with 16 refs., esp. on homoserine lactone and its analogs. (c) 2000 Academic Press.
RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 6 OF 14 CAPLUS COPYRIGHT 2003 ACS
AN 1999:797683 CAPLUS
DN 132:10572
TI Signal generation in ***autoinduction*** systems: synthesis of acylated homoserine lactones by LuxI-type proteins
AU Fuqua, Clay; ***Eberhard, Anatol***
CS Department of Biology, Trinity University, San Antonio, TX, 78212, USA
SO Cell-Cell Signaling in Bacteria (1999), 211-230. Editor(s): Dunny, Gary M.; Winans, Stephen C. Publisher: American Society for Microbiology,

Washington, D. C.
CODEN: 68LJAA
DT Conference; General Review
LA English
AB A review with 83 refs.
RE CNT 83 THERE ARE 83 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 7 OF 14 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 3
AN 1998:505731 BIOSIS
DN PREV199800505731
TI Analogs of the ***autoinducer*** 3-oxooctanoyl-homoserine lactone strongly inhibit activity of the TraR protein of Agrobacterium tumefaciens.
AU Zhu, Jun; Beaber, John W.; More, Margret I.; Fuqua, Clay; ***Eberhard,*** ***Anatol*** ; Winans, Stephen C. (1)
CS (1) Sect. Microbiol., Cornell Univ., Ithaca, NY 14853 USA
SO Journal of Bacteriology, (Oct., 1998) Vol. 180, No. 20, pp. 5398-5405. ISSN: 0021-9193.
DT Article
LA English
AB The TraR and TraI proteins of Agrobacterium tumefaciens mediate cell-density-dependent expression of the Ti plasmid Ira regulon. TraI synthesizes the ***autoinducer*** pheromone N-(3-oxooctanoyl)-L-homoserine lactone (3-oxo-C8-HSL), while TraR is an 3-oxo-C8-HSL-responsive transcriptional activator. We have compared the abilities of 3-oxo-C8-HSL and 32 related compounds to activate expression of a TraR-regulated promoter. In a strain that expresses wild-type levels of TraR, only 3-oxo-C8-HSL was strongly stimulatory, four compounds were detectably active only at high concentrations, and the remaining 28 compounds were inactive. Furthermore, many of these compounds were potent antagonists. In contrast, almost all of these compounds were stimulatory in a congenic strain that overexpresses TraR and no compound was a potent antagonist. We propose a model in which ***autoinducers*** enhance the affinity of TraR either for other TraR monomers or for DNA binding sites and that overexpression of TraR potentiates this interaction by mass action. Wild-type A. tumefaciens released a rather broad spectrum of ***autoinducers*** , including several that antagonize induction of a wild-type strain. However, under all conditions tested, 3-oxo-C8-HSL was more abundant than any other analog, indicating that other released ***autoinducers*** do not interfere with Ira gene induction. We conclude that (i) in wild-type strains, only 3-oxo-C8-HSL significantly stimulates tra gene expression, while many ***autoinducer*** analogs are potent antagonists; (ii) TraR overexpression increases agonistic activity of ***autoinducer*** analogs, allowing sensitive biodetection of many ***autoinducers*** ; and (iii) ***autoinducer*** stimulatory activity is potentiated by TraR overproduction, suggesting that ***autoinducers*** may shift an equilibrium between TraR monomers and dimers or oligomers. When ***autoinducer*** specificities of other quorum-sensing proteins are tested, care should be taken not to overexpress those proteins.

L10 ANSWER 8 OF 14 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 4
AN 1997:49297 CAPLUS

DN 126:155048
TI ***Autoinducer*** molecule
IN Pearson, James P.; Gray, Kendall M.; Passador, Luciano; Tucker, Kenneth D.; ***Eberhard, Anatol*** ; Iglewski, Barbara H.; Greenberg, Everett P.
PA The University of Iowa Research Foundation, USA
SO U.S., 12 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 5591872	A	19970107	US 1993-104487	19930809
US 6057288	A	20000502	US 1995-456864	19950601

PRAI US 1993-104487 19930809
OS MARPAT 126:155048
AB ***Autoinducer*** mols., e.g., N-(3-oxododecanoyl)homoserine lactone, for Pseudomonas ***aeruginosa*** are described. The mols. regulate gene expression in the bacterium. Therapeutic compns. and therapeutic methods involving analogs and/or inhibitors of the ***autoinducer*** mols. also are described. The mols. are useful for treating or preventing infection by Pseudomonas ***aeruginosa*** .

L10 ANSWER 9 OF 14 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 5
AN 1996:322902 BIOSIS
DN PREV199699045258
TI Quorum sensing in Vibrio fischeri: Probing ***autoinducer*** -LuxR interactions with ***autoinducer*** analogs.
AU Schaefer, Amy L.; Hanzelka, Brian L.; ***Eberhard, Anatol*** ; Greenberg, E. P. (1)
CS (1) Dep. Microbiol., Univ. Iowa, Iowa City, IA 52242 USA
SO Journal of Bacteriology, (1996) Vol. 178, No. 10, pp. 2897-2901.
ISSN: 0021-9193.
DT Article
LA English
AB The Vibrio fischeri luminescence genes are activated by the transcription factor LuxR in combination with a diffusible signal compound, N-(3-oxohexanoyl) homoserine lactone, termed the ***autoinducer*** . We have synthesized a set of ***autoinducer*** analogs. Many analogs with alterations in the acyl side chain showed evidence of binding to LuxR. Some appeared to bind with an affinity similar to that of the ***autoinducer*** , but none showed a higher affinity, and many did not bind as tightly as the ***autoinducer*** . For the most part, compounds with substitutions in the homoserine lactone ring did not show evidence of binding to LuxR. The exceptions were compounds with a homocysteine thiolactone ring in place of the homoserine lactone ring. Many but not all of the analogs showing evidence of LuxR binding had some ability to activate the luminescence genes. None were as active as the ***autoinducer*** . While most showed little ability to induce luminescence, a few analogs with rather conservative substitutions had appreciable activity. Under the conditions we employed, some of the analogs showing little or no ability to induce luminescence were inhibitors of the ***autoinducer*** .

L10 ANSWER 10 OF 14 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 6
AN 1996:338432 BIOSIS
DN PREV199699060788
TI Enzymatic synthesis of a quoroum-sensing ***autoinducer*** through use of defined substrates.
AU More, Margret I.; Finger, L. David; Stryker, Joel L.; Fuqua, Clay; ***Eberhard, Anatol*** ; Winans, Stephen C. (1)
CS (1) Section Microbiology, Cornell Univ., Ithaca, NY 14853 USA
SO Science (Washington D C), (1996) Vol. 272, No. 5268, pp. 1655-1658. ISSN: 0036-8075.
DT Article
LA English
AB Many bacteria, including several pathogens of plants and humans, use a pheromone called an ***autoinducer*** to regulate gene expression in a cell density-dependent manner. Agrobacterium ***autoinducer*** (AAI, N-(3-oxo-octanoyl)-L-homoserine lactone) of A. tumefaciens is synthesized by the TraI protein, which is encoded by the tumor-inducing plasmid. Purified hexahistidinyl-TraI (H-6-TraI) used S-adenosylmethionine to make the homoserine lactone moiety of AAI, but did not use related compounds. H-6-TraI used 3-oxo-octanoyl-acyl carrier protein to make the 3-oxo-octanoyl moiety of AAI, but did not use 3-oxo-octanoyl-coenzyme A. These results demonstrate the enzymatic synthesis of an ***autoinducer*** through the use of purified substrates.

L10 ANSWER 11 OF 14 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 7
AN 1994:126275 BIOSIS
DN PREV199497139275
TI Structure of the ***autoinducer*** required for expression of Pseudomonas ***aeruginosa*** virulence genes.
AU Pearson, James P.; Gray, Kendall M.; Passador, Luciano; Tucker, Kenneth D.; ***Eberhard, Anatol*** ; Iglewski, Barbara H.; Greenberg, E. P. (1)
CS (1) Dep. Microbiol., Univ. Iowa, Iowa City, IA 52242 USA
SO Proceedings of the National Academy of Sciences of the United States of America, (1994) Vol. 91, No. 1, pp. 197-201. ISSN: 0027-8424.
DT Article
LA English
AB In Pseudomonas ***aeruginosa*** the LasR protein is required for activation of lasB and several other virulence genes. A diffusible signal molecule, the P. ***aeruginosa*** ***autoinducer*** (PAI), produced by the bacterial cell and released into the growth medium, is required for activity of LasR. By cloning a lasB::lacZ fusion and a lasR gene under control of the Lac promoter in Escherichia coli, we have developed a quantitative bioassay for PAI. We have used this assay to follow the purification of PAI from cell-free culture supernatant fluids in which P. ***aeruginosa*** or E. coli containing the P. ***aeruginosa*** gene required for ***autoinducer*** synthesis, lasI, had been grown. Chemical analyses indicated the purified material was 3-oxoN-(tetrahydro-2-oxo-3-furanyl)dodecanamide. To confirm this assignment, the compound was synthesized and the synthetic compound was shown to have chemical and biological properties identical to those of PAI purified from culture supernatant fluids. The elucidation of the PAI

structure suggests therapeutic approaches toward control of P. ***aeruginosa*** infections.

L10 ANSWER 12 OF 14 CAPLUS COPYRIGHT 2003 ACS
AN 1991:225414 CAPLUS
DN 114:225414
TI Synthesis of the lux gene ***autoinducer*** in Vibrio fischeri is positively autoregulated
AU ***Eberhard, Anatol*** ; Longin, Teri; Widrig, Cindra A.; Stranick, Stephan J.
CS Dep. Chem., Ithaca Coll., Ithaca, NY, 14850, USA
SO Archives of Microbiology (1991), 155(3), 294-7
CODEN: AMICCW; ISSN: 0302-8933
DT Journal
LA English
AB The enzymes for luminescence in V. fischeri are induced only after the accumulation of a sufficient concn. of a metabolic product (the ***autoinducer***) generated by the bacteria themselves. Genetic analyses by others have previously suggested that biosynthesis of the ***autoinducer*** is catalyzed by a single gene product (***autoinducer*** synthetase), presumably from precursors typically present in the bacterial cell. Also, the biosynthesis was predicted to be autocatalytic such that in the presence of ***autoinducer*** , more ***autoinducer*** synthetase should be produced. These predictions were directly tested and it was found that ***autoinducer*** synthesis is indeed pos. autoregulated. In addn., ***autoinducer*** synthesis was demonstrated in vitro and the substrates of ***autoinducer*** synthetase were tentatively identified as S-adenosylmethionine and 3-oxohexanoyl CoA.

L10 ANSWER 13 OF 14 CAPLUS COPYRIGHT 2003 ACS
AN 1987:99288 CAPLUS
DN 106:99288
TI Analogs of the ***autoinducer*** of bioluminescence in Vibrio fischeri
AU ***Eberhard, Anatol*** ; Widrig, Cindra A.; McBath, Paula; Schineller, Jeffrey B.
CS Dep. Chem., Ithaca Coll., Ithaca, NY, 14850, USA
SO Archives of Microbiology (1986), 146(1), 35-40
CODEN: AMICCW; ISSN: 0302-8933
DT Journal
LA English
AB The enzymes for luminescence in V. fischeri are induced only when a sufficient concn. of a metabolic product (***autoinducer***) specifically produced by this species accumulates. It has previously been shown that the ***autoinducer*** is 3-oxohexanoyl homoserine lactone and that it enters the cells by simple diffusion. To further study the mechanism of induction, several analogs of the ***autoinducer*** were synthesized and tested with V. fischeri for their inducing activity and for their ability to inhibit the action of the natural ***autoinducer*** . The compds. displayed various combinations of inducing and inhibiting abilities. None of the compds. tested appeared to have any effect on cells of V. harveyi strain MAV or Photobacterium leiognathi strain 721, but several of the compds. decreased light output by P. phosphoreum strain 8265. These studies show (1) the site of action of the ***autoinducer*** is not highly sterically constrained, (2) the

autoinducers of other species of luminous bacteria are likely to be quite different from that of V. fischeri, and (3) a simple mode in which one ***autoinducer*** mol. binds to a single receptor protein site and thus, initiates luciferase synthesis if inadequate. The analogs should prove useful in the study of the binding site and mode of action of the ***autoinducer*** .

L10 ANSWER 14 OF 14 CAPLUS COPYRIGHT 2003 ACS
AN 1979:520017 CAPLUS
DN 91:120017
TI Luminous bacteria synthesize luciferase anaerobically
AU ***Eberhard, Anatol*** ; Hinton, Johanna P.; Zuck, Robin M.
CS Dep. Chem., Ithaca Coll., Ithaca, NY, 14850, USA
SO Archives of Microbiology (1979), 121(3), 277-82
CODEN: AMICCW; ISSN: 0302-8933
DT Journal
LA English
AB Four species of luminous bacteria, Photobacterium phosphoreum, P. leiognathi, P. fischeri, and Beneckea harveyi (2 strains of each), synthesized luciferase anaerobically. One of these, P. phosphoreum, produced as much luciferase anaerobically as it did aerobically, and all 4 species grew almost equally rapidly under the 2 sets of conditions. Previous work with B. harveyi and P. fisheri had shown that aerobic luciferase synthesis can proceed only after an inhibitor in the complex medium has been removed and a species-specific ***autoinducer*** secreted. All strains also removed the inhibitor and secreted an ***autoinducer*** anaerobically. Apparently, the small amt. of luciferase produced anaerobically by some strains is not due either to lack of removal of inhibitor or to insufficient prodn. of ***autoinducer*** but may involve an O-dependent control mechanism.

=> e iglewski barbara h/au
E1 1 IGLEWSKI B R/AU
E2 7 IGLEWSKI BARBARA/AU
E3 200 --> IGLEWSKI BARBARA H/AU
E4 3 IGLEWSKI BARBARA M/AU
E5 4 IGLEWSKI M/AU
E6 5 IGLEWSKI S/AU
E7 1 IGLEWSKI S M/AU
E8 1 IGLEWSKI ST/AU
E9 12 IGLEWSKI STANISLAW/AU
E10 5 IGLEWSKI W/AU
E11 102 IGLEWSKI W J/AU
E12 2 IGLEWSKI WALLACE/AU

=> s e2-e3 and (aerugin? or autoinduc?)
L11 171 ("IGLEWSKI BARBARA" AU OR "IGLEWSKI BARBARA H" AU) AND (AERUGIN? OR AUTOINDUC?)

=> dup rem l11
PROCESSING COMPLETED FOR L11
L12 126 DUP REM L11 (45 DUPLICATES REMOVED)

=> s l12 and inhibit?

L13 21 L12 AND INHIBIT?

=> d bib ab 1-
YOU HAVE REQUESTED DATA FROM 21 ANSWERS - CONTINUE? Y (N):y

L13 ANSWER 1 OF 21 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 2002:358626 BIOSIS
DN PREV200200358626
TI Immunogenic conjugates of Gram-negative bacterial ***autoinducer***
molecules.
AU Kende, Andrew S. (1); ***Iglewski, Barbara H.*** ; Smith, Roger A.;
Phipps, Richard P.; Pearson, James P.
CS (1) Pittsford, NY USA
ASSIGNEE: University of Rochester, Rochester, NY, USA
PI US 6395282 May 28, 2002
SO Official Gazette of the United States Patent and Trademark Office Patents,
(May 28, 2002) Vol. 1258, No. 4, pp. No Pagination.
http://www.uspto.gov/web/menu/patdata.html. e-file.
ISSN: 0098-1133.
DT Patent
LA English
AB The present invention relates to an immunogenic conjugate comprising a
carrier molecule coupled to an ***autoinducer*** of a Gram negative
bacteria. The immunogenic conjugate, when combined with a pharmaceutically
acceptable carrier, forms a suitable vaccine for mammals to prevent
infection by the Gram negative bacteria. The immunogenic conjugate is also
used to raise and subsequently isolate antibodies or binding portions
thereof which are capable of recognizing and binding to the
autoinducer . The antibodies or binding portions thereof are
utilized in a method of treating infections, a method of
inhibiting ***autoinducer*** activity, and in diagnostic
assays which detect the presence of ***autoinducers*** or
autoinducer antagonists in fluid or tissue samples.

L13 ANSWER 2 OF 21 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 2001:127654 BIOSIS
DN PREV200100127654
TI ***Inhibition*** of quorum sensing by a Pseudomonas ***aeruginosa***
dksA homologue.
AU Branny, Pavel; Pearson, James P.; Pesci, Everett C.; Kohler, Thilo;
Iglewski, Barbara H. ; Van Delden, Christian (1)
CS (1) Department of Genetics and Microbiology, Medical School of the
University of Geneva, CMU, 9 Av. Champel, CH-1211, Geneva 4:
Christian.vanDelden@medecine.unige.ch Switzerland
SO Journal of Bacteriology, (March, 2001) Vol. 183, No. 5, pp. 1531-1539.
print.
ISSN: 0021-9193.
DT Article
LA English
SL English
AB The Pseudomonas ***aeruginosa*** las (lasR-lasI) and rhl (rhlR-rhlI)
quorum-sensing systems regulate the expression of several virulence
factors, including elastase and rhamnolipid. P. ***aeruginosa***
strain PR1-E4 is a lasR deletion mutant that contains a second, undefined
mutation which allows production of elastase and rhamnolipid despite a

nonfunctional las system. We have previously shown that this strain accomplishes this by increasing the expression of the ***autoinducer*** synthase gene rhlI. In this report, we show that the elastolytic phenotype of mutant PR1-E4 can be complemented with a P. ***aeruginosa*** homologue of the Escherichia coli dnaK mutation suppressor gene dksA. When supplied in trans on a multicopy plasmid, this gene completely suppressed elastase production by mutant PR1-E4. Cloning and Northern blot analysis revealed that dksA was neither mutated nor less transcribed in mutant PR1-E4. When overexpressed, dksA also reduced rhamnolipid production by both mutant PR1-E4 and the wild type, PAO1. Using Northern blot analysis and lacZ reporter fusions, we show that dksA ***inhibits*** rhlI, rhlAB, and lasB transcription. Exogenous N-butyryl-L-homoserine lactone overcame the reduced expression of rhlI and restored rhlAB and lasB expression, as well as elastase production. Our results suggest that the overproduction of the P. ***aeruginosa*** DksA homologue ***inhibits*** quorum-sensing-dependent virulence factor production by downregulating the transcription of the ***autoinducer*** synthase gene rhlI.

L13 ANSWER 3 OF 21 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 2000:542087 BIOSIS
DN PREV200000542087
TI ***Autoinducer*** molecule.
AU Pearson, James P. (1); Gray, Kendall M.; Passador, Luciano; Tucker, Kenneth D.; Eberhard, Anatol; ***Iglewski, Barbara H.*** ; Greenberg, Everett P.
CS (1) Iowa City, IA USA
ASSIGNEE: University of Iowa, Iowa City, IA, USA; University of Rochester; Ithaca College, Ithaca, NY, USA
PI US 6057288 May 02, 2000
SO Official Gazette of the United States Patent and Trademark Office Patents, (May 2, 2000) Vol. 1234, No. 1, pp. No pagination. e-file.
ISSN: 0098-1133.
DT Patent
LA English
AB ***Autoinducer*** molecules, e.g., N-(3-oxododecanoyl)homoserine lactone, for Pseudomonas ***aeruginosa*** are described. The molecules regulate gene expression in the bacterium. Therapeutic compositions and therapeutic methods involving analogs and/or ***inhibitors*** of the ***autoinducer*** molecules also are described. The molecules are useful for treating or preventing infection by Pseudomonas ***aeruginosa*** .

L13 ANSWER 4 OF 21 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1999:186664 BIOSIS
DN PREV199900186664
TI Active efflux and diffusion are involved in transport of Pseudomonas ***aeruginosa*** cell-to-cell signals.
AU Pearson, James P.; van Delden, Christian; ***Iglewski, Barbara H. (1)***
CS (1) Department of Microbiology and Immunology, University of Rochester, 601 Elmwood Ave., Rochester, NY, 14642 USA
SO Journal of Bacteriology, (Feb., 1999) Vol. 181, No. 4, pp. 1203-1210.
ISSN: 0021-9193.
DT Article
LA English
AB Many gram-negative bacteria communicate by N-acyl homoserine lactone

signals called ***autoinducers*** (AIs). In Pseudomonas ***aeruginosa*** , cell-to-cell signaling controls expression of extracellular virulence factors, the type II secretion apparatus, a stationary-phase sigma factor (sigmas), and biofilm differentiation. The fact that a similar signal, N-(3-oxohexanoyl) homoserine lactone, freely diffuses through Vibrio fischeri and Escherichia coli cells has led to the assumption that all AIs are freely diffusible. In this work, transport of the two P. ***aeruginosa*** AIs, N-(3-oxododecanoyl) homoserine lactone (3OC12-HSL) (formerly called PAI-1) and N-butyryl homoserine lactone (C4-HSL) (formerly called PAI-2), was studied by using tritium-labeled signals. When (3H)C4-HSL was added to cell suspensions of P. ***aeruginosa*** , the cellular concentration reached a steady state in less than 30 s and was nearly equal to the external concentration, as expected for a freely diffusible compound. In contrast, (3H)3OC12-HSL required about 5 min to reach a steady state, and the cellular concentration was 3 times higher than the external level. Addition of ***inhibitors*** of the cytoplasmic membrane proton gradient, such as azide, led to a strong increase in cellular accumulation of (3H)3OC12-HSL, suggesting the involvement of active efflux. A defined mutant lacking the mexA-mexB-oprM-encoded active-efflux pump accumulated (3H)3OC12-HSL to levels similar to those in the azide-treated wild-type cells. Efflux experiments confirmed these observations. Our results show that in contrast to the case for C4-HSL, P. ***aeruginosa*** cells are not freely permeable to 3OC12-HSL. Instead, the mexA-mexB-oprM-encoded efflux pump is involved in active efflux of 3OC12-HSL. Apparently the length and/or degree of substitution of the N-acyl side chain determines whether an AI is freely diffusible or is subject to active efflux by P. ***aeruginosa*** .

L13 ANSWER 5 OF 21 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1997:273276 BIOSIS
DN PREV199799564994
TI Regulation of las and rhl Quorum sensing in Pseudomonas ***aeruginosa***

AU Pesci, Everett C.; Pearson, James P.; Seed, Patrick C.; ***Iglewski,*** *** Barbara H. (1)***
CS (1) Dep. Microbiol. Immunol., Univ. Rochester, 601 Elmwood Ave., Box 672, Rochester, NY 14642 USA
SO Journal of Bacteriology, (1997) Vol. 179, No. 10, pp. 3127-3132. ISSN: 0021-9193.
DT Article
LA English
AB The production of several virulence factors by Pseudomonas ***aeruginosa*** is controlled according to cell density through two quorum-sensing systems, las and rhl. The las system is comprised of the transcriptional activator protein LasR and of LasI, which directs the synthesis of the ***autoinducer*** PAI-1. Similarly, the rhl system consists of the transcriptional activator protein RhlR and of RhlI, which directs synthesis of the ***autoinducer*** PAI-2 (formerly referred to as factor 2). To study the interrelation between the two P. ***aeruginosa*** quorum-sensing systems, we fused a lacZ reporter gene to lasR, rhlR, and rhlA and monitored expression of these three genes under various conditions. Our data indicate that lasR and rhlR are expressed in a growth-dependent manner, with activation of each gene occurring during the last half of log-phase growth. We also show that the

las quorum-sensing system controls the rhl quorum-sensing system in two ways. First, we found that LasR and PAI-1 activated rhlR transcription. Second, we showed that PAI-1 blocked PAI-2 from binding to RhlR, thereby ***inhibiting*** the expression of rhlA. Our data thus indicate that the las system exerts two levels of control on RhlR, transcriptional and posttranslational.

L13 ANSWER 6 OF 21 CAPLUS COPYRIGHT 2003 ACS
AN 2002:171860 CAPLUS
DN 136:215514
TI Novel ***autoinducer*** molecules and uses therefor
IN Pesci, Everett C.; Milbank, Jared B. J.; Pearson, James P.; Kende, Andrew S.; Greenberg, Everett Peter; ***Iglewski, Barbara H.***
PA The University of Iowa Research Foundation, USA; University of Rochester; East Carolina University
SO PCT Int. Appl., 42 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2002018342	A2	20020307	WO 2001-US27165	20010831
WO 2002018342	A3	20020510		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2001086976	A5	20020313	AU 2001-86976	20010831
US 2002177715	A1	20021128	US 2001-945325	20010831

PRAI US 2000-229715P P 20000831
WO 2001-US27165 W 20010831
OS MARPAT 136:215514
AB Novel bacterial quinolone signal mols. and, more particularly, Pseudomonas quinolone signal ("PQS") mols., e.g., 2-heptyl-3-hydroxy-4-quinolone, and analogs and derivs. are described,. Therapeutic compns. contg. the mols., and therapeutic methods, methods of for regulating gene expression, methods for identifying modulators of the ***autoinducer*** mols., and methods of modulating quorum sensing signaling in bacteria using the compds. of the invention are also described. Thus, 2-Heptyl-3-hydroxy-4-quinolone was isolated from culture broth of Pseudomonas ***aeruginosa*** PAO-JP2 pECP39.

L13 ANSWER 7 OF 21 CAPLUS COPYRIGHT 2003 ACS
AN 1997:49297 CAPLUS
DN 126:155048
TI ***Autoinducer*** molecule
IN Pearson, James P.; Gray, Kendall M.; Passador, Luciano; Tucker, Kenneth D.; Eberhard, Anatol; ***Iglewski, Barbara H.*** ; Greenberg, Everett P.

PA The University of Iowa Research Foundation, USA
SO U.S., 12 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 5591872	A	19970107	US 1993-104487	19930809
US 6057288	A	20000502	US 1995-456864	19950601

PRAI US 1993-104487 19930809
OS MARPAT 126:155048
AB ***Autoinducer*** mols., e.g., N-(3-oxododecanoyl)homoserine lactone, for Pseudomonas ***aeruginosa*** are described. The mols. regulate gene expression in the bacterium. Therapeutic compns. and therapeutic methods involving analogs and/or ***inhibitors*** of the ***autoinducer*** mols. also are described. The mols. are useful for treating or preventing infection by Pseudomonas ***aeruginosa*** .

L13 ANSWER 8 OF 21 CAPLUS COPYRIGHT 2003 ACS
AN 1982:490284 CAPLUS
DN 97:90284
TI Immunological cross-reactivity in the absence of DNA homology between Pseudomonas toxin A and diphtheria toxin
AU Sadoff, Jerald C.; Buck, Gregory A.; ***Iglewski, Barbara H.*** ; Bjorn, Michael J.; Groman, Neal B.
CS Dep. Bacterial Dis., Walter Reed Army Inst. Res., Washington, DC, 20012, USA
SO Infection and Immunity (1982), 37(1), 250-4
CODEN: INFIBR; ISSN: 0019-9567
DT Journal
LA English
AB The immunodominant determinant of Pseudomonas toxin A cross-reacted with a normally inaccessible determinant in fragment A of diphtheria toxin. Trypsin-treated diphtheria toxin and fragment A of diphtheria toxin ***inhibited*** binding of toxin A antibody to whole toxin A, whereas whole diphtheria toxin did not ***inhibit*** this reaction. However, even at the lowest stringency no hybridization was detected between diphtheria tox probe and P. ***aeruginosa*** DNA.

L13 ANSWER 9 OF 21 CAPLUS COPYRIGHT 2003 ACS
AN 1981:420234 CAPLUS
DN 95:20234
TI Exoenzyme S: an ADP-ribosyl transferase produced by Pseudomonas ***aeruginosa***
AU Thompson, Michael R.; Bjorn, Michael J.; Sokol, Pamela A.; Lile, Jack D.; ***Iglewski, Barbara H.***
CS Health Sci. Cent., Univ. Oregon, Portland, OR, 97201, USA
SO Developments in Cell Biology (Amsterdam) (1980), 6(Novel ADP-Ribosylations Regul. Enzymes Proteins), 425-33
CODEN: DCBIDD; ISSN: 0165-2265
DT Journal
LA English
AB Chelating agents (EDTA or nitrolotriactic acid) stimulated the prodn. of exoenzyme S by P. ***aeruginosa*** . Stimulation was dose-dependent

and assocd. with a decrease in proteolytic activity. The enzyme had a pH optimum of 6, was sensitive to high ionic strength at pH >7.0, and was ***inhibited*** by Fe3+ and Cu2+. Exoenzyme S activity could be resolved into 2 components with mol. wts. of 60,000 and 30,000. The 60,000-dalton component reacted with antibody raised against the crude enzyme. The partially purified 30,000-dalton component demonstrated cross-reactivity with Pseudomonas toxin A in radioimmunoassay; however, anti-toxin A antibodies did not react with the purified 30,000-dalton component. An exoenzyme S-pos. phenotype was assocd. with a high mortality rate in patients infected with Pseudomonas.

L13 ANSWER 10 OF 21 CAPLUS COPYRIGHT 2003 ACS
AN 1979:518313 CAPLUS
DN 91:118313
TI Effects of pseudomonas toxin A, diphtheria toxin, and cholera toxin on electrical characteristics of turtle bladder
AU Brodsky, William A.; Sadoff, Jerald C.; Durham, John H.; Ehrenspeck, Gerhard; Schachner, Mark; ***Iglewski, Barbara H.***
CS Dep. Physiol. Biophys., Mount Sinai Sch. Med., New York, NY, 10029, USA
SO Proceedings of the National Academy of Sciences of the United States of America (1979), 76(7), 3562-6
CODEN: PNASA6; ISSN: 0027-8424
DT Journal
LA English
AB Rapidly developing changes in the short-curcuiting current (Isc), conductance (G), and potential (PD) of turtle bladders in Na-rich or Na-free media were seen after the mucosal addn., at 10 nM, of each of 3 toxins that contain ADP-ribosylation activity (P. ***aeruginosa*** A, diphtheria, and cholera). Toxin A irreversibily decreased the Isc, PD, and G of bladders in Na-rich media and the Isc and PD of bladders in Na-free media. Diphtheria or cholera toxin reversibly increased Isc and PD (not G), but only in Na-free media. The effects of toxin A in the turtle bladder were eliminated by preexposure of this toxin to heat, specific antitoxins, or dithiothreitol and urea. Because exposure to this last condition increase the ADP-ribosylation activity of toxin A, the proenzyme was presumably the required transport- ***inhibiting*** form of toxin A. The effects of all 3 toxins occurred rapidly, possibly before any of the possible intracellular ADP-ribosylation reactions were initiated. Whereas a recognition binding of toxin to receptors on the apical membrane completely accounts for the reversible effects of diphtheria or cholera toxin, this and addnl. toxin-membrane interactions (e.g., translocation) are needed to account for the irreversible effects of toxin A.

L13 ANSWER 11 OF 21 CAPLUS COPYRIGHT 2003 ACS
AN 1979:484300 CAPLUS
DN 91:84300
TI Toxin ***inhibitors*** of protein synthesis: production, purification, and assay of Pseudomonas ***aeruginosa*** toxin A
AU ***Iglewski, Barbara H.*** ; Sadoff, Jerald C.
CS Health Cent., Univ. Oregon, Portland, OR, 97201, USA
SO Methods in Enzymology (1979), 60(Nucleic Acids Protein Synth., Part H), 780-93
CODEN: MENZAU; ISSN: 0076-6879
DT Journal; General Review

LA English
AB A review with many refs.

L13 ANSWER 12 OF 21 CAPLUS COPYRIGHT 2003 ACS
AN 1979:133715 CAPLUS
DN 90:133715
TI Comparative toxicities of diphtherial toxin and Pseudomonas ***aeruginosa*** exotoxin A: evidence for different cell receptors
AU Vasil, Michael L.; ***Iglewski, Barbara H.***
CS Dep. Microbiol. Immunol., Univ. Oregon Health Sci. Cent., Portland, OR, USA
SO Journal of General Microbiology (1978), 108(2), 333-7
CODEN: JGMIAN; ISSN: 0022-1287
DT Journal
LA English
AB The sensitivities of chicken, mouse, and human cell lines to P. ***aeruginosa*** exotoxin A and diphtherial toxin varied independently with respect to the type of toxin. HeLa cells were .apprx.30-fold and Hep-2 cells .apprx.8-fold more sensitive to diphtherial toxin than to exotoxin A, whereas Chang liver cells were more sensitive to exotoxin A. CRM 197 protein ***inhibited*** the action of diphtherial toxin on protein formation by chick embryo fibroblasts but had no effect on the similar action of exotoxin A. There may be different cell surface receptors for each toxin.

L13 ANSWER 13 OF 21 CAPLUS COPYRIGHT 2003 ACS
AN 1978:101524 CAPLUS
DN 88:101524
TI Detecting the presence or preventing the growth of a microorganism
IN Morse, Stephen A.; ***Iglewski, Barbara***
PA Oregon State Board of Higher Education, USA
SO Ger. Offen., 27 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI DE 2714415	A1	19771013	DE 1977-2714415	19770331
US 4142939	A	19790306	US 1976-672292	19760331
CA 1089748	A1	19801118	CA 1977-274526	19770322
AU 7723686	A1	19781005	AU 1977-23686	19770328
AU 516959	B2	19810702		
FR 2361465	A1	19780310	FR 1977-9572	19770330
JP 52151783	A2	19771216	JP 1977-35529	19770331
JP 57002319	B4	19820114		
SU 731904	D	19800430	SU 1977-2466678	19770331
GB 1575843	A	19801001	GB 1977-13687	19770331
FR 2361464	A1	19780310	FR 1977-36080	19771130
JP 57115182	A2	19820717	JP 1981-56406	19810416
JP 58043077	B4	19830924		
JP 57115198	A2	19820717	JP 1981-56407	19810416

PRAI US 1976-672292 19760331
AB Microorganisms were detected or ***inhibited*** by culturing in the presence of a bacteriocin from a 2nd, unrelated microorganism. For

example, the R-type pyocin 611131 from Pseudomonas ***aeruginosa*** ATCC 29260 bound specifically to all of 56 strains of Neisseria gonorrhoeae, but to only 8 of 41 strains of other Neisseria species. Purified pyocin 611131 was spotted on an agar plate inoculated with a sample culture. An ***inhibition*** zone around the pyocin spot rapidly identified the culture as N. gonorrhoeae. Bacteriocins from 6 other bacteria were shown to bind to different bacteria of clin. interest.

L13 ANSWER 14 OF 21 CAPLUS COPYRIGHT 2003 ACS
AN 1978:100081 CAPLUS
DN 88:100081
TI Mechanism of action of Pseudomonas ***aeruginosa*** exotoxin A in experimental mouse infections: adenosine diphosphate ribosylation of elongation factor 2
AU Pavlovskis, Olgerts R.; ***Iglewski, Barbara H.*** ; Pollack, Matthew
CS Dep. Microbiol., Nav. Med. Res. Inst., Bethesda, MD, USA
SO Infection and Immunity (1978), 19(1), 29-33
CODEN: INFIBR; ISSN: 0019-9567
DT Journal
LA English
AB The data presented indicate that one of the primary actions of P. ***aeruginosa*** exotoxin during exptl. infection is the inactivation of elongation factor 2 (EF-2) in various mouse organs. Organs from mice infected with the toxigenic P. ***aeruginosa*** strain PA103 contained considerably less EF-2 activity than did organs from uninfected controls. Whereas EF-2 activity was reduced in all organs examd. from PA103-infected animals, the largest decrease was obsd. in the liver, where the active EF-2 levels were reduced by 70 to 90%. In addn., consistent ***inhibition*** of protein synthesis in livers but not in other organs was obsd. in mice infected with the toxigenic PA103 strain. Treatment of mice with antitoxin before infection with strain PA103 prevented inactivation of EF-2. When mice were infected with LDs of the nontoxigenic P. ***aeruginosa*** WR5 strain, tissue EF-2 levels were not markedly reduced below those derived from uninfected control animals.

L13 ANSWER 15 OF 21 CAPLUS COPYRIGHT 2003 ACS
AN 1977:463758 CAPLUS
DN 87:63758
TI Mechanism of action of Pseudomonas ***aeruginosa*** exotoxin A: adenosine diphosphate-ribosylation of mammalian elongation factor 2 in vitro and in vivo
AU ***Iglewski, Barbara H.*** ; Liu, Pinghui V.; Kabat, David
CS Sch. Med., Univ. Oregon, Portland, OR, USA
SO Infection and Immunity (1977), 15(1), 138-44
CODEN: INFIBR; ISSN: 0019-9567
DT Journal
LA English
AB NAD [53-84-9]-dependent ***inhibition*** of protein synthesis in a rabbit reticulocyte lysate by P. ***aeruginosa*** exotoxin A (PA toxin) was restored by addn. of a protein from normal mouse liver which copurifies with elongation factor 2 (EF-2). EF-2 activity was almost totally absent in livers of mice which had been injected 24 h earlier with PA toxin. On the contrary, EF-2 concns. were only partially reduced in other organs and were normal in brains of intoxicated mice. Studies using NAD labeled in various positions show that PA toxin, like fragment A of

diphtheria toxin, catalyzes transfer of the adenosine 5'-diphosphate-ribosyl moiety of NAD. Furthermore, reversal occurred when the modified protein was incubated with excess concns. of PA toxin and nicotinamide, and NAD was identified as a product of the reverse reaction. The protein modification catalyzed either by PA toxin or by fragment A of diphtheria toxin could be reversed by incubation with the other toxin. These results support the proposal that these 2 toxins adenosine 5'-diphosphate-ribosylate the same amino acid of EF-2 in a stereochem. identical fashion. Furthermore PA toxin inactivates EF-2 in intoxicated mice to an extent which would ultimately result in death.

L13 ANSWER 16 OF 21 CAPLUS COPYRIGHT 2003 ACS
AN 1977:402142 CAPLUS
DN 87:2142
TI Incidence of exotoxin production by Pseudomonas species
AU Bjorn, Michael J.; Vasil, Michael L.; Sadoff, Jerald C.; ***Iglewski,*** *** Barbara H.***
CS Health Sci. Cent., Univ. Oregon, Portland, OR, USA
SO Infection and Immunity (1977), 16(1), 362-6
CODEN: INFIBR; ISSN: 0019-9567
DT Journal
LA English
AB Pseudomonas ***aeruginosa*** exotoxin A catalyzed the transfer of the ADP-ribose moiety of NAD onto elongation factor 2, resulting in the ***inhibition*** of mammalian protein synthesis. The enzymatic activity of ADP-ribosyl (ADPR)-transferase is thought to account for the toxicity of exotoxin A. Exotoxin A prodn. was detected in approx. 90% of the 111 isolates of P. ***aeruginosa*** . In contrast, none of the other species of Pseudomonas examd. produced exotoxin A detectable by either ADPR-transferase activity or immunol. reactivity.

L13 ANSWER 17 OF 21 CAPLUS COPYRIGHT 2003 ACS
AN 1976:556178 CAPLUS
DN 85:156178
TI ***Inhibition*** of Neisseria gonorrhoeae by a bacteriocin from Pseudomonas ***aeruginosa***
AU Morse, Stephen A.; Vaughan, Patrick; Johnson, Deanne; ***Iglewski,*** *** Barbara H.***
CS Health Sci. Cent., Univ. Oregon, Portland, OR, USA
SO Antimicrobial Agents and Chemotherapy (1976), 10(2), 354-62
CODEN: AMACCQ; ISSN: 0066-4804
DT Journal
LA English
AB Supernatants from broth-grown cultures of P. ***aeruginosa*** PA 103 exhibited bactericidal activity against N. gonorrhoeae. The concn. of the bactericidal substance increased significantly after induction by mitomycin C. Purifn. was effected by salt fractionation, chromatog. on DEAE cellulose, and sedimentation by centrifugation at 100,000 g for 90 min. Electron microscopy of this purified prepn. revealed structures resembling R-type pyocins in both the contracted and noncontracted state. Pyocins in the contracted state were obsd. in assocn. with the gonococcal cell surface. No loss of bactericidal activity was obsd. after treatment with proteolytic enzymes. Std. pyocin typing procedures identified the pyocin pattern as 611 131. Out of 56 strains of N. gonorrhoeae from disseminated and nondisseminated infections, all were susceptible to

pyocin 611 131. However, only 3 of 20 strains of N. meningitidis and 5 of 16 strains of N. lactamica were susceptible. The bactericidal activity that pyocin 611 131 has for N. gonorrhoeae and other species of Neisseria is significant because it departs from the expected specificity that heretofore has distinguished bacteriocins from most classical antibiotics.

L13 ANSWER 18 OF 21 CAPLUS COPYRIGHT 2003 ACS
AN 1975:509545 CAPLUS
DN 83:109545
TI NAD-dependent ***inhibition*** of protein synthesis by Pseudomonas ***aeruginosa*** toxin
AU ***Iglewski, Barbara H.*** ; Kabat, David
CS Med. Sch., Univ. Oregon, Portland, OR, USA
SO Proceedings of the National Academy of Sciences of the United States of America (1975), 72(6), 2284-8
CODEN: PNASA6; ISSN: 0027-8424
DT Journal
LA English
AB P. ***aeruginosa*** toxin (PA toxin) ***inhibits*** protein synthesis in a reticulocyte cell-free system. The ***inhibition*** requires NAD [53-84-9] and results in a block at an elongation step of polypeptide assembly. PA toxin acts like diphtheria toxin fragment A. Both toxins catalyze the transfer of radioactivity from 14C-labeled NAD into covalent linkage with the 100,000 dalton elongation factor 2 (EF-2) protein. Furthermore, in the presence of a limiting amt. of EF-2, excess toxin, and 14C-NAD, the 2 toxins were non-additive in the amt. of label transferred to EF-2. Unlike free fragment A of diphtheria toxin, the enzyme activity of PA toxin was heat labile and neutralizable with antibody to PA toxin but not with antibody to fragment A. Although PA and diphtheria toxins have different cellular specificities and mol. properties and produce different clin. symptoms, their intracellular mechanisms of action appear to be identical.

L13 ANSWER 19 OF 21 USPATFULL
AN 2003:140145 USPATFULL
TI Immunogenic conjugates of Gram-negative bacterial ***autoinducer*** molecules and antibodies raised against the same
IN Kende, Andrew S., Pittsford, NY, UNITED STATES
Iglewski, Barbara H. , Fairport, NY, UNITED STATES
Smith, Roger, Rochester, NY, UNITED STATES
Phipps, Richard P., Pittsford, NY, UNITED STATES
Pearson, James P., Cambridge, CA, UNITED STATES
PI US 2003095985 A1 20030522
AI US 2002-121207 A1 20020411 (10)
RLI Division of Ser. No. US 1999-293687, filed on 16 Apr 1999, GRANTED, Pat. No. US 6395282
PRAI US 1998-82025P 19980416 (60)
DT Utility
FS APPLICATION
LREP Michael L. Goldman, NIXON PEABODY LLP, Clinton Square, P.O. Box 31051, Rochester, NY, 14603-1051
CLMN Number of Claims: 34
ECL Exemplary Claim: 1
DRWN 3 Drawing Page(s)
LN.CNT 1830

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to an immunogenic conjugate comprising a carrier molecule coupled to an ***autoinducer*** of a Gram negative bacteria. The immunogenic conjugate, when combined with a pharmaceutically acceptable carrier, forms a suitable vaccine for mammals to prevent infection by the Grain negative bacteria. The immunogenic conjugate is also used to raise and subsequently isolate antibodies or binding portions thereof which are capable of recognizing and binding to the ***autoinducer*** . The antibodies or binding portions thereof are utilized in a method of treating infections, a method of ***inhibiting*** ***autoinducer*** activity, and in diagnostic assays which detect the presence of ***autoinducers*** or ***autoinducer*** antagonists in fluid or tissue samples.

L13 ANSWER 20 OF 21 USPATFULL

AN 2002:315226 USPATFULL

TI Novel ***autoinducer*** molecules and uses therefor

IN Pesci, Everett C., Greenville, NC, UNITED STATES
Iglewski, Barbara H. , Fairport, NY, UNITED STATES
Milbank, Jared B.J., Ann Arbor, MI, UNITED STATES
Pearson, James P., Cambridge, MA, UNITED STATES
Kende, Andrew S., Pittsford, NY, UNITED STATES
Greenberg, Everett Peter, Iowa City, IA, UNITED STATES

PI US 2002177715 A1 20021128

AI US 2001-945325 A1 20010831 (9)

PRAI US 2000-229715P 20000831 (60)

DT Utility

FS APPLICATION

LREP LAHIVE & COCKFIELD, 28 STATE STREET, BOSTON, MA, 02109

CLMN Number of Claims: 64

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 1568

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Novel bacterial quinolone signal molecules and, more particularly, pseudomonas quinolone signal ("PQS") molecules, e.g., 2-heptyl-3-hydroxy-4-quinolone, and analogs and derivatives thereof are described. Therapeutic compositions containing the molecules, and therapeutic methods, methods of for regulating gene expression, methods for identifying modulators of the ***autoinducer*** molecules, and methods of modulating quorum sensing signalling in bacteria using the compounds of the invention are also described.

L13 ANSWER 21 OF 21 USPATFULL

AN 79:11685 USPATFULL

TI Method of producing an R-type bacteriocin and its use in the detection of specific microorganisms

IN Morse, Stephen A., Portland, OR, United States
Iglewski, Barbara , Portland, OR, United States

PA Oregon State Board of Higher Education, An agency of the State of Oregon, Eugene, OR, United States (U.S. corporation)

PI US 4142939 19790306

AI US 1976-672292 19760331 (5)

DT Utility

FS Granted

EXNAM Primary Examiner: Wiseman, Thomas G.
LREP Verbeck, Bruno J.
CLMN Number of Claims: 18
ECL Exemplary Claim: 1,4,7,11,17
DRWN 5 Drawing Figure(s); 3 Drawing Page(s)
LN.CNT 567
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method of detecting a specific microorganism comprising contacting said microorganism with bacteriocins from a microorganism of a genus which is taxonomically unrelated to said specific organism. The result of such contact may be utilized to detect the presence of a microorganism belonging to a taxonomically unrelated genus. Radio-labeled or fluorescein-labeled bacteriocins can be reacted with specific bacteria in a biological sample and the presence of such specific bacteria detected by removing excess bacteriocins and determining the presence of fluorescent or radioactive bacteria in the sample. Neisseria gonorrhoeae is identified by spotting bacteriocins on a plate of clinical material; or using a disk impregnated with bacteriocins placed on a plate inoculated with the clinical material; or the bacteriocins can be incorporated into one-half of a split agar plate, the identification being made on the basis of a zone of ***inhibition*** surrounding the spot where the bacteriocins were applied, or growth ***inhibition*** on the portion of the plate to which the bacteriocins were added.

=> e greenberg everett p/au
E1 1 GREENBERG ETHAN/AU
E2 1 GREENBERG EUGENE/AU
E3 12 --> GREENBERG EVERETT P/AU
E4 4 GREENBERG EVERETT PETER/AU
E5 556 GREENBERG F/AU
E6 2 GREENBERG F E/AU
E7 1 GREENBERG F G/AU
E8 22 GREENBERG F H/AU
E9 1 GREENBERG F L/AU
E10 2 GREENBERG F M/AU
E11 2 GREENBERG F R/AU
E12 1 GREENBERG F S/AU

=> s e2-e4 and (aerugin? or autoinduc?)
L14 10 ("GREENBERG EUGENE" AU OR "GREENBERG EVERETT P" AU OR "GREENBERG EVERETT PETER" AU) AND (AERUGIN? OR AUTOINDUC?)

=> dup rem l14
PROCESSING COMPLETED FOR L14
L15 7 DUP REM L14 (3 DUPLICATES REMOVED)

=> d bib ab 1-
YOU HAVE REQUESTED DATA FROM 7 ANSWERS - CONTINUE? Y (N):y

L15 ANSWER 1 OF 7 USPATFULL
AN 2003:165887 USPATFULL
TI Methods and compositions for the modulation of biofilm formation
IN Whiteley, Marvin, Coralville, IA, UNITED STATES

Bangera, M. Gita, Lynnwood, WA, UNITED STATES
Lory, Stephen, Cambridge, MA, UNITED STATES
Greenberg, Everett Peter , Iowa City, IA, UNITED STATES
PA University of Iowa Research Foundation, Iowa City, IA, UNITED STATES, 52242 (U.S. corporation)
PI US 2003113742 A1 20030619
AI US 2002-127032 A1 20020419 (10)
PRAI US 2001-285190P 20010420 (60)
US 2001-344142P 20011024 (60)
DT Utility
FS APPLICATION
LREP LAHIVE & COCKFIELD, 28 STATE STREET, BOSTON, MA, 02109
CLMN Number of Claims: 28
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 7123
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to methods for the modulation of biofilm formation and antibiotic resistance. Specifically, the present invention identifies the differential expression of biofilm-associated genes in biofilms, relative to their expression in non-biofilm producing bacterial cells. The present invention also identifies the differential expression of biofilm-associated genes in biofilms treated with antibiotic, relative to their expression in untreated biofilms. The present invention describes methods for the diagnostic evaluation of biofilm formation. The invention also provides methods for identifying a compound capable of modulating biofilm formation and antibiotic resistance. The present invention also provides methods for the identification and therapeutic use of compounds as treatments of biofilm-associated diseases or disorders.

L15 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2003 ACS
AN 2002:171860 CAPLUS
DN 136:215514
TI Novel ***autoinducer*** molecules and uses therefor
IN Pesci, Everett C.; Milbank, Jared B. J.; Pearson, James P.; Kende, Andrew S.; ***Greenberg, Everett Peter*** ; Iglewski, Barbara H.
PA The University of Iowa Research Foundation, USA; University of Rochester; East Carolina University
SO PCT Int. Appl., 42 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2002018342	A2	20020307	WO 2001-US27165	20010831
WO 2002018342	A3	20020510		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,

DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
AU 2001086976 A5 20020313 AU 2001-86976 20010831
US 2002177715 A1 20021128 US 2001-945325 20010831
PRAI US 2000-229715P P 20000831
WO 2001-US27165 W 20010831
OS MARPAT 136:215514
AB Novel bacterial quinolone signal mols. and, more particularly, Pseudomonas quinolone signal ("PQS") mols., e.g., 2-heptyl-3-hydroxy-4-quinolone, and analogs and derivs. are described,. Therapeutic compns. contg. the mols., and therapeutic methods, methods of for regulating gene expression, methods for identifying modulators of the ***autoinducer*** mols., and methods of modulating quorum sensing signaling in bacteria using the compds. of the invention are also described. Thus, 2-Heptyl-3-hydroxy-4-quinolone was isolated from culture broth of Pseudomonas ***aeruginosa*** PAO-JP2/pECP39.

L15 ANSWER 3 OF 7 USPATFULL
AN 2002:315226 USPATFULL
TI Novel ***autoinducer*** molecules and uses therefor
IN Pesci, Everett C., Greenville, NC, UNITED STATES
Iglewski, Barbara H., Fairport, NY, UNITED STATES
Milbank, Jared B.J., Ann Arbor, MI, UNITED STATES
Pearson, James P., Cambridge, MA, UNITED STATES
Kende, Andrew S., Pittsford, NY, UNITED STATES
Greenberg, Everett Peter , Iowa City, IA, UNITED STATES
PI US 2002177715 A1 20021128
AI US 2001-945325 A1 20010831 (9)
PRAI US 2000-229715P 20000831 (60)
DT Utility
FS APPLICATION
LREP LAHIVE & COCKFIELD, 28 STATE STREET, BOSTON, MA, 02109
CLMN Number of Claims: 64
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 1568
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Novel bacterial quinolone signal molecules and, more particularly, pseudomonas quinolone signal ("PQS") molecules, e.g., 2-heptyl-3-hydroxy-4-quinolone, and analogs and derivatives thereof are described. Therapeutic compositions containing the molecules, and therapeutic methods, methods of for regulating gene expression, methods for identifying modulators of the ***autoinducer*** molecules, and methods of modulating quorum sensing signalling in bacteria using the compounds of the invention are also described.

L15 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2003 ACS
AN 2002:472328 CAPLUS
DN 138:183565
TI Pseudomonas ***aeruginosa*** quorum sensing: A target for anti-pathogenic drug discovery
AU ***Greenberg, Everett P.***
CS Department of Microbiology, University of Iowa, Iowa City, IA, 52242, USA
SO Pharmacochemistry Library (2002), 32(Trends in Drug Research III), 207-212
CODEN: PHLIDQ; ISSN: 0165-7208

PB Elsevier Science B.V.
DT Journal; General Review
LA English
AB A review on the role of bacterial communication in community behaviors important in pathogenesis, using Pseudomonas ***aeruginosa*** as a model. The ability of the quorum sensing system of P. ***aeruginosa*** quorum to control virulence makes it a target for anti-pathogenic drug development.
RE.CNT 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 5 OF 7 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 1
AN 2000:542087 BIOSIS
DN PREV200000542087
TI ***Autoinducer*** molecule.
AU Pearson, James P. (1); Gray, Kendall M.; Passador, Luciano; Tucker, Kenneth D.; Eberhard, Anatol; Iglewski, Barbara H.; ***Greenberg,*** *** Everett P.***
CS (1) Iowa City, IA USA
ASSIGNEE: University of Iowa, Iowa City, IA, USA; University of Rochester; Ithaca College, Ithaca, NY, USA
PI US 6057288 May 02, 2000
SO Official Gazette of the United States Patent and Trademark Office Patents, (May 2, 2000) Vol. 1234, No. 1, pp. No pagination. e-file.
ISSN: 0098-1133.
DT Patent
LA English
AB ***Autoinducer*** molecules, e.g., N-(3-oxododecanoyl)homoserine lactone, for Pseudomonas ***aeruginosa*** are described. The molecules regulate gene expression in the bacterium. Therapeutic compositions and therapeutic methods involving analogs and/or inhibitors of the ***autoinducer*** molecules also are described. The molecules are useful for treating or preventing infection by Pseudomonas ***aeruginosa*** .

L15 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 2
AN 1999:521434 CAPLUS
DN 131:139488
TI Bactericidal factor in human airway surface fluid and uses thereof
IN Welsh, Michael J.; Smith, Jeffrey J.; Travis, Sue M.; ***Greenberg,*** *** Everett P.***
PA University of Iowa Research Foundation, USA
SO U.S., 35 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 5939393	A	19990817	US 1997-840876	19970417
PRAI US 1997-41601P	P	19970325		

AB A bactericidal factor isolated from the surface fluid of airway epithelial cells and uses therefore is described. The bactericidal factor is characterized as having the following features: (a) a mol. wt. of less than 10 kd; (b) heat stable; (c) broad spectrum activity including gram pos. and gram neg. bacteria, fungi, and methicillin-resistant

Staphylococcus; and (d) decreased antimicrobial activity in increasing salt concn. The factor is a defensin-like mol. In cystic fibrosis (CF) patients which have abnormal levels of salt concn. in the airways due to defective Cl- transport, the factor is inactivated. leading for the first time to the explanation of the pulmonary infection assocd. with CF.
RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 3
AN 1997:49297 CAPLUS
DN 126:155048
TI ***Autoinducer*** molecule
IN Pearson, James P.; Gray, Kendall M.; Passador, Luciano; Tucker, Kenneth D.; Eberhard, Anatol; Iglewski, Barbara H.; ***Greenberg, Everett P.***
PA The University of Iowa Research Foundation, USA
SO U.S., 12 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 5591872	A	19970107	US 1993-104487	19930809
US 6057288	A	20000502	US 1995-456864	19950601

PRAI US 1993-104487 19930809
OS MARPAT 126:155048
AB ***Autoinducer*** mols., e.g., N-(3-oxododecanoyl)homoserine lactone, for Pseudomonas ***aeruginosa*** are described. The mols. regulate gene expression in the bacterium. Therapeutic compns. and therapeutic methods involving analogs and/or inhibitors of the ***autoinducer*** mols. also are described. The mols. are useful for treating or preventing infection by Pseudomonas ***aeruginosa*** .

=> s aeruginosa and autoinducer?
L16 649 AERUGINOSA AND AUTOINDUCER?

=> dup rem l16
PROCESSING COMPLETED FOR L16
L17 314 DUP REM L16 (335 DUPLICATES REMOVED)

=> s l17 and inhibit?
L18 108 L17 AND INHIBIT?

=> s l18 and lactone?
L19 87 L18 AND LACTONE?

=> d bib ab 1-
YOU HAVE REQUESTED DATA FROM 87 ANSWERS - CONTINUE? Y/(N):y

L19 ANSWER 1 OF 87 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 2002:392644 BIOSIS
DN PREV200200392644
TI Lysophosphatidic acid ***inhibition*** of the accumulation of Pseudomonas ***aeruginosa*** PAO1 alginate, pyoverdin, elastase and

LasA.

AU Laux, David C.; Corson, Joy M.; Givskov, Michael; Hentzer, Morten; Moller, Annette; Wosencroft, Kathleen A.; Olson, Joan C.; Krogfelt, Karen A.; Goldberg, Joanna B.; Cohen, Paul S. (1)

CS (1) Department of Cell and Molecular Biology, University of Rhode Island, Kingston, RI, 02881: pco1697u*(a)* postoffice.uri.edu USA

SO Microbiology (Reading), (June, 2002) Vol. 148, No. 6, pp. 1709-1723. print.
ISSN: 1350-0872.

DT Article

LA English

AB The pathogenesis of Pseudomonas ***aeruginosa*** is at least partially attributable to its ability to synthesize and secrete the siderophore pyoverdin and the two zinc metalloproteases elastase and LasA, and its ability to form biofilms in which bacterial cells are embedded in an alginate matrix. In the present study, a lysophospholipid, 1-palmitoyl-2-hydroxy-sn-glycero-3-phosphate (also called monopalmitoylphosphatidic acid (MPPA)), which accumulates in inflammatory exudates, was shown to ***inhibit*** the extracellular accumulation of P. ***aeruginosa*** PAO1 alginate, elastase, LasA protease and the siderophore pyoverdin. MPPA also ***inhibited*** biofilm formation. The ***inhibitory*** effects of MPPA occur independently of rpoS expression and without affecting the accumulation of the ***autoinducers*** N-(3-oxododecanoyl) homoserine ***lactone*** and N-butyryl-L-homoserine ***lactone*** , and may be due, at least in part, to the ability of MPPA to bind divalent cations.

L19 ANSWER 2 OF 87 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

AN 2001:127654 BIOSIS

DN PREV200100127654

TI ***Inhibition*** of quorum sensing by a Pseudomonas ***aeruginosa*** dksA homologue.

AU Branny, Pavel; Pearson, James P.; Pesci, Everett C.; Kohler, Thilo; Iglewski, Barbara H.; Van Delden, Christian (1)

CS (1) Department of Genetics and Microbiology, Medical School of the University of Geneva, CMU, 9 Av. Champel, CH-1211, Geneva 4: Christian.vanDelden@medecine.unige.ch Switzerland

SO Journal of Bacteriology, (March, 2001) Vol. 183, No. 5, pp. 1531-1539. print.
ISSN: 0021-9193.

DT Article

LA English

SL English

AB The Pseudomonas ***aeruginosa*** las (lasR-lasI) and rhl (rhlR-rhlI) quorum-sensing systems regulate the expression of several virulence factors, including elastase and rhamnolipid. P. ***aeruginosa*** strain PR1-E4 is a lasR deletion mutant that contains a second, undefined mutation which allows production of elastase and rhamnolipid despite a nonfunctional las system. We have previously shown that this strain accomplishes this by increasing the expression of the ***autoinducer*** synthase gene rhlI. In this report, we show that the elastolytic phenotype of mutant PR1-E4 can be complemented with a P. ***aeruginosa*** homologue of the Escherichia coli dnaK mutation suppressor gene dksA. When supplied in trans on a multicopy plasmid, this gene completely suppressed elastase production by mutant PR1-E4. Cloning and Northern blot analysis

revealed that dksA was neither mutated nor less transcribed in mutant PR1-E4. When overexpressed, dksA also reduced rhamnolipid production by both mutant PR1-E4 and the wild type, PAO1. Using Northern blot analysis and lacZ reporter fusions, we show that dksA ***inhibits*** rhlI, rhlAB, and lasB transcription. Exogenous N-butyryl-L-homoserine ***lactone*** overcame the reduced expression of rhlI and restored rhlAB and lasB expression, as well as elastase production. Our results suggest that the overproduction of the P. ***aeruginosa*** DksA homologue ***inhibits*** quorum-sensing-dependent virulence factor production by downregulating the transcription of the ***autoinducer*** synthase gene rhlI.

L19 ANSWER 3 OF 87 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 2000:542087 BIOSIS
DN PREV200000542087
TI ***Autoinducer*** molecule.
AU Pearson, James P. (1); Gray, Kendall M.; Passador, Luciano; Tucker, Kenneth D.; Eberhard, Anatol; Iglewski, Barbara H.; Greenberg, Everett P.
CS (1) Iowa City, IA USA
ASSIGNEE: University of Iowa, Iowa City, IA, USA; University of Rochester; Ithaca College, Ithaca, NY, USA
PI US 6057288 May 02, 2000
SO Official Gazette of the United States Patent and Trademark Office Patents, (May 2, 2000) Vol. 1234, No. 1, pp. No pagination. e-file. ISSN: 0098-1133.
DT Patent
LA English
AB ***Autoinducer*** molecules, e.g., N-(3-oxododecanoyl)homoserine ***lactone*** , for Pseudomonas ***aeruginosa*** are described. The molecules regulate gene expression in the bacterium. Therapeutic compositions and therapeutic methods involving analogs and/or ***inhibitors*** of the ***autoinducer*** molecules also are described The molecules are useful for treating or preventing infection by Pseudomonas ***aeruginosa*** .

L19 ANSWER 4 OF 87 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1999:521021 BIOSIS
DN PREV199900521021
TI 'Subinhibitory' erythromycin represses production of Pseudomonas ***aeruginosa*** lectins, ***autoinducer*** and virulence factors.
AU Sofer, Danit; Gilboa-Garber, Nechama; Belz, Aviva; Chaim Garber, Nachman (1)
CS (1) Faculty of Life Sciences, Bar-Ilan University, Ramat Gan, 52900 Israel
SO Chemotherapy, (Sept. Oct., 1999) Vol. 45, No. 5, pp. 335-341. ISSN: 0009-3157.
DT Article
LA English
SL English
AB Pseudomonas ***aeruginosa*** infection is preceded by selective adhesion of the bacteria to the host target cells via diverse adhesins, including lectins. This step enables maximal damage to the target host cells by the bacterially secreted injurious toxins and enzymes. The production of both lectins and many of the virulence factors is positively controlled by transcription activators including signaling ***autoinducers*** (N-acyl-L-homoserine ***lactones***). We show in

this communication that erythromycin at subminimal growth ***inhibitory*** concentrations simultaneously suppresses the production of P. ***aeruginosa*** hemagglutinins (including lectins), protease, hemolysin and homoserine ***lactone*** ***autoinducers*** . The antibiotic-treated bacteria also show reduced virulence to mice, endorsing clinical observations that indicate the efficiency of low-dose erythromycin treatment of persistent drug-resistant P. ***aeruginosa*** infections.

L19 ANSWER 5 OF 87 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1999:186664 BIOSIS
DN PREV199900186664
TI Active efflux and diffusion are involved in transport of Pseudomonas ***aeruginosa*** cell-to-cell signals.
AU Pearson, James P.; van Delden, Christian; Iglewski, Barbara H. (1)
CS (1) Department of Microbiology and Immunology, University of Rochester, 601 Elmwood Ave., Rochester, NY, 14642 USA
SO Journal of Bacteriology, (Feb., 1999) Vol. 181, No. 4, pp. 1203-1210. ISSN: 0021-9193.
DT Article
LA English
AB Many gram-negative bacteria communicate by N-acyl homoserine ***lactone*** signals called ***autoinducers*** (AIs). In Pseudomonas ***aeruginosa*** , cell-to-cell signaling controls expression of extracellular virulence factors, the type II secretion apparatus, a stationary-phase sigma factor (sigmas), and biofilm differentiation. The fact that a similar signal, N-(3-oxohexanoyl) homoserine ***lactone*** , freely diffuses through Vibrio fischeri and Escherichia coli cells has led to the assumption that all AIs are freely diffusible. In this work, transport of the two P. ***aeruginosa*** AIs, N-(3-oxododecanoyl) homoserine ***lactone*** (3OC12-HSL) (formerly called PAI-1) and N-butyryl homoserine ***lactone*** (C4-HSL) (formerly called PAI-2), was studied by using tritium-labeled signals. When (3H)C4-HSL was added to cell suspensions of P. ***aeruginosa*** , the cellular concentration reached a steady state in less than 30 s and was nearly equal to the external concentration, as expected for a freely diffusible compound. In contrast, (3H)3OC12-HSL required about 5 min to reach a steady state, and the cellular concentration was 3 times higher than the external level. Addition of ***inhibitors*** of the cytoplasmic membrane proton gradient, such as azide, led to a strong increase in cellular accumulation of (3H)3OC12-HSL, suggesting the involvement of active efflux. A defined mutant lacking the mexA-mexB-oprM-encoded active-efflux pump accumulated (3H)3OC12-HSL to levels similar to those in the azide-treated wild-type cells. Efflux experiments confirmed these observations. Our results show that in contrast to the case for C4-HSL, P. ***aeruginosa*** cells are not freely permeable to 3OC12-HSL. Instead, the mexA-mexB-oprM-encoded efflux pump is involved in active efflux of 3OC12-HSL. Apparently the length and/or degree of substitution of the N-acyl side chain determines whether an AI is freely diffusible or is subject to active efflux by P. ***aeruginosa*** .

L19 ANSWER 6 OF 87 CAPLUS COPYRIGHT 2003 ACS
AN 2003:500900 CAPLUS
TI Library Screening for Synthetic Agonists and Antagonists of a Pseudomonas

aeruginosa ***Autoinducer***

AU Smith, Kristina M.; Bu, Yigong; Suga, Hiroaki

CS Department of Biological Sciences, State University of New York, Buffalo, Buffalo, NY, 14260, USA

SO Chemistry & Biology (2003), 10(6), 563-571
CODEN: CBOLE2; ISSN: 1074-5521

PB Cell Press

DT Journal

LA English

AB The ***autoinducer*** (AI) that initiates the quorum sensing (QS) signaling cascade in Pseudomonas ***aeruginosa*** is an acyl-homoserine ***lactone*** (acyl-HSL). We initiated a study of the requirements for binding of the AI to its protein effector LasR by synthesizing a library of analogs with the HSL moiety replaced with different amines and alcs. We tested each compd. for both agonist and antagonist activity using a QS-controlled reporter gene assay and found several new agonists and antagonists. A representative antagonist was further tested for its ability to ***inhibit*** virulence factors. This data progresses our understanding of the LasR-AI interaction toward the rational design of therapeutic ***inhibitors*** of QS.

L19 ANSWER 7 OF 87 CAPLUS COPYRIGHT 2003 ACS

AN 2003:226854 CAPLUS

DN 138:234517

TI Suppressive effects of macrolides and their derivatives on quorum sensing systems in Pseudomonas ***aeruginosa***

AU Tateda, Kazuhiro; Ishii, Yoshikazu; Yamaguchi, Keizo; Horikawa, Manabu; Ishiguro, Masamichi

CS Sch. Med., Toho Univ., Japan

SO Japanese Journal of Antibiotics (2003), 56(1), 80-86
CODEN: JJANAX; ISSN: 0368-2781

PB Japan Antibiotics Research Association

DT Journal; General Review

LA Japanese

AB A review on (1) structures and roles of homoserine ***lactones*** (HSL) and other ***autoinducers*** in quorum sensing systems in bacteria, (2) genes for ***autoinducer*** synthases, transcription factors, and virulence factors of P. ***aeruginosa*** , (3) involvement of HSL and quorum sensing systems in the pathogenesis of P. ***aeruginosa*** infections and biofilm formation, (4) search for ***autoinducer*** analogs which modulate quorum sensing systems, and (5) ***inhibition*** of quorum sensing of P. ***aeruginosa*** by macrolide antibiotics.

L19 ANSWER 8 OF 87 CAPLUS COPYRIGHT 2003 ACS

AN 2003:202490 CAPLUS

DN 138:215268

TI Therapeutic process for P. ***aeruginosa*** infections using macrolide antibiotics

IN Pechere, Jean-claude; Van Delden, Christian; Menekse, Oktay

PA Anbics Patents-Licenses A.-G., Switz.

SO PCT Int. Appl., 31 pp.
CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003020290	A1	20030313	WO 2001-CH532	20010903

PI WO 2003020290 A1 20030313 WO 2001-CH532 20010903
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
PRAI WO 2001-CH532 20010903

AB Macrolides, in particular azalides such as azithromycin, are suited for the treatment of nosocomial infections caused by P. ***aeruginosa*** . The mechanism of action is the ***inhibition*** of the quorum sensing of P. ***aeruginosa*** , in particular the impediment of the las and rhl quorum sensing systems synthesis and the impediment of the synthesis of the ***autoinducers*** N-[3-oxododecanoyl]-L-homoserine ***lactone*** and N-butyrylhomoserine ***lactone*** . This allows for treatments of P. ***aeruginosa*** infections at non-***inhibiting*** concns. of the macrolide.

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 9 OF 87 CAPLUS COPYRIGHT 2003 ACS
AN 2003:96085 CAPLUS
TI Induction and ***Inhibition*** of Pseudomonas ***aeruginosa*** Quorum Sensing by Synthetic ***Autoinducer*** Analogs
AU Smith, Kristina M.; Bu, Yigong; Suga, Hiroaki
CS Department of Biological Sciences, Buffalo, NY, USA
SO Chemistry & Biology (2003), 10(1), 81-89
CODEN: CBOLE2; ISSN: 1074-5521
PB Cell Press
DT Journal
LA English
AB We synthesized a library of Pseudomonas ***aeruginosa*** ***autoinducer*** analogs with variation targeted to the homoserine ***lactone*** (HSL) moiety and discovered a new agonist, 3-oxo-C12-(2-aminocyclohexanol), capable of activating LasR as a transcription factor. We reconstructed two sets of focused libraries against the quorum-sensing transcription factors LasR and RhlR, resp. Opposing the prediction that both proteins should have the same binding site for HSL, it was surprising to find that these two related proteins respond to different structural motifs. This suggests that the HSL binding site differs in these proteins. We also found that subtle structural modifications to the agonists yielded compds. with antagonist activity. We performed a series of assays to show that ***inhibition*** of quorum sensing by these antagonists significantly reduced the prodn. of virulence factors and biofilm formation.

L19 ANSWER 10 OF 87 CAPLUS COPYRIGHT 2003 ACS
AN 2002:618060 CAPLUS
TI Discovery of antagonists of quorum sensing in Pseudomonas

aeruginosa by combinatorial chemistry and high-throughput screening

AU Bu, Yigong; Smith, Kristina; Suga, Hiro-aki

CS Department of Chemistry, University at Buffalo, The State University of New York, Buffalo, NY, 14260-3000, USA

SO Abstracts of Papers, 224th ACS National Meeting, Boston, MA, United States, August 18-22, 2002 (2002), MEDI-208 Publisher: American Chemical Society, Washington, D. C.
CODEN: 69CZPZ

DT Conference; Meeting Abstract

LA English

AB Pseudomonas ***aeruginosa*** is a gram-neg. bacterium that causes chronic lung infections in approx. 90% of the cystic fibrous patients. This bacterium uses quorum sensing (cell d. sensing) mechanism (which is based on the regulatory protein- ***autoinducer*** interaction) to regulate the prodn. of numerous virulence factors and the formation of biofilm. The antagonists of regulatory proteins (LasR and RhlR) are required to stop quorum sensing cascade. Combinatorial chem. was employed for the synthesis of the analogs of the ***autoinducer*** [N-(3-oxododecanoyl)-L-homoserine ***lactone***]. This included the grouped libraries prepd. in the soln. phase and the parallel synthesis performed on the solid phase. The screening revealed three strong agonists and eight weak antagonists of LasR. The SAR studies based on these active mols. allowed us to convert the agonists to potent antagonists of LasR and RhlR. The combination of these potent antagonists indicated strong ***inhibition*** of the quorum sensing system.

L19 ANSWER 11 OF 87 CAPLUS COPYRIGHT 2003 ACS

AN 2002:403802 CAPLUS

DN 136:400592

TI Immunogenic conjugates comprising ***autoinducer*** and lysine-contg. protein as vaccine and for raising antibody to treat and diagnose Gram-neg. bacterial infection

IN Kende, Andrew S.; Iglewski, Barbara H.; Smith, Roger; Phipps, Richard P.; Pearson, James P.

PA University of Rochester, USA

SO U.S., 21 pp.
CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 6395282	B1	20020528	US 1999-293687	19990416
US 2003095985	A1	20030522	US 2002-121207	20020411
PRAI US 1998-82025P	P	19980416		
US 1999-293687	A3	19990416		

OS MARPAT 136:400592

AB The present invention relates to an immunogenic conjugate comprising a carrier mol. coupled to an ***autoinducer*** of a Gram neg. bacteria. The ***autoinducer*** is N-(3-oxododecanoyl)-L-homoserine ***lactone*** , N-(butanoyl)-L-homoserine ***lactone*** , N-hexanoyl-homoserine ***lactone*** , N-(3-oxohexanoyl)-homoserine ***lactone*** , N-.beta.-(hydroxybutyryl)-homoserine ***lactone*** , N-(3-oxooctanoyl)-L-homoserine ***lactone*** , or N-(3R-hydroxy-cis-

tetradecanoyl)-L-homoserine ***lactone*** . The carrier mol. is bovine serum albumin, chicken egg ovalbumin, limpet hemocyanin, tetanus toxoid, diphtheria toxoid and thyroglobulin. The immunogenic conjugate, when combined with a pharmaceutically acceptable carrier, forms a suitable vaccine for mammals to prevent infection by the Gram neg. bacteria. The immunogenic conjugate is also used to raise and subsequently isolate antibodies or binding portions thereof which are capable of recognizing and binding to the ***autoinducer*** . The antibodies or binding portions thereof are utilized in a method of treating infections, a method of ***inhibiting*** ***autoinducer*** activity, and in diagnostic assays which detect the presence of ***autoinducers*** or ***autoinducer*** antagonists in fluid or tissue samples.

RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 12 OF 87 CAPLUS COPYRIGHT 2003 ACS
AN 2002:371961 CAPLUS
DN 136:337400
TI Expression of pathogenicity and quorum sensing system in Pseudomonas ***aeruginosa***
AU Fukushima, Jun
CS Dep. Biotechnol., Akita Prefect. Univ., Akita, 010-0195, Japan
SO Baiosaiensu to Indasutori (2002), 60(4), 219-224
CODEN: BIDSE6; ISSN: 0914-8981
PB Baioindasutori Kyokai
DT Journal; General Review
LA Japanese
AB A review on roles of the cell-cell communication system, called the quorum sensing (QS) system, in regulation of virulence gene expression in Pseudomonas ***aeruginosa*** , discussing N-acyl-L-homoserine ***lactones*** as QS signal mols. (***autoinducers***), expression regulation of pathogens including elastase, alk. proteinase, and exotoxin A by QS system, and possible development of antibacterial agents ***inhibiting*** the QS system.

L19 ANSWER 13 OF 87 CAPLUS COPYRIGHT 2003 ACS
AN 2000:98348 CAPLUS
DN 132:146629
TI ***Autoinducer*** synthase-modulating compounds for ***inhibition*** of bacterial growth
IN Cronan, John E., Jr.; Plapp, Bryce V.; Greenberg, E. Peter; Parsek, Matthew R.
PA The University of Iowa Research Foundation, USA
SO PCT Int. Appl., 60 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000006177	A1	20000210	WO 1999-US17188	19990729

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ,

TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

US 2003054512 A1 20030320 US 1999-227488 19990106
CA 2337710 AA 20000210 CA 1999-2337710 19990729
AU 9955449 A1 20000221 AU 1999-55449 19990729
EP 1100513 A1 20010523 EP 1999-941978 19990729
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

PRAI US 1998-94988P P 19980731
US 1999-227488 A 19990106
WO 1999-US17188 W 19990729

AB A compn. for modulating the activity of an ***autoinducer*** synthase mol. comprises an effective amt. of a compd. capable of affecting the binding of an org. or inorg. substrate to the homoserine ***lactone*** binding site of the ***autoinducer*** synthase, thereby modulating the activity of the ***autoinducer*** synthase mol. A method for identifying modulators of the ***autoinducers*** synthesis reaction is also provided. Such modulators are useful for controlling bacterial growth and can be used for therapeutic treatment of bacterial infections particularly in immunocompromized subjects, e.g. individuals with cystic fibrosis or HIV infection. They are also useful in treating disease states assocd. with ***autoinducer*** synthesis and biofilm development. To facilitate the study of acyl homoserine ***lactone*** (HSL) synthesis by RHII ***autoinducer*** synthase, an in vitro assay using 14C-labeled S-adenosine methionine (SAM) was developed. The results verified that RHII was an ***autoinducer*** synthase requiring only butyryl-acyl protein carrier (ACP) and SAM as substrates. The reaction was linear over time and dependent upon the concn. of the enzyme.

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 14 OF 87 CAPLUS COPYRIGHT 2003 ACS
AN 1997:49297 CAPLUS
DN 126:155048
TI ***Autoinducer*** molecule
IN Pearson, James P.; Gray, Kendall M.; Passador, Luciano; Tucker, Kenneth D.; Eberhard, Anatol; Iglewski, Barbara H.; Greenberg, Everett P.
PA The University of Iowa Research Foundation, USA
SO U.S., 12 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 5591872	A	19970107	US 1993-104487	19930809
US 6057288	A	20000502	US 1995-456864	19950601

PRAI US 1993-104487 19930809
OS MARPAT 126:155048
AB ***Autoinducer*** mols., e.g., N-(3-oxododecanoyl)homoserine ***lactone*** , for Pseudomonas ***aeruginosa*** are described. The mols. regulate gene expression in the bacterium. Therapeutic compns. and

therapeutic methods involving analogs and or ***inhibitors*** of the ***autoinducer*** mols. also are described. The mols. are useful for treating or preventing infection by Pseudomonas ***aeruginosa*** .

L19 ANSWER 15 OF 87 MEDLINE
AN 2002739532 MEDLINE
DN 22391035 PubMed ID: 12502363
TI Synthetic analogues of the bacterial signal (quorum sensing) molecule N-(3-oxododecanoyl)-L-homoserine ***lactone*** as immune modulators.
AU Chhabra Siri Ram; Harty Chris; Hooi Doreen S W; Daykin Mavis; Williams Paul; Telford Gary; Pritchard David I; Bycroft Barrie W
CS School of Pharmaceutical Sciences, University of Nottingham, University Park, Nottingham, NG7 2RD, UK.
SO JOURNAL OF MEDICINAL CHEMISTRY, (2003 Jan 2) 46 (1) 97-104. Journal code: 9716531. ISSN: 0022-2623.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200302
ED Entered STN: 20021228
Last Updated on STN: 20030205
Entered Medline: 20030204
AB Comparative immune modulatory activity for a range of synthetic analogues of a Pseudomonas ***aeruginosa*** signal molecule, N-(3-oxododecanoyl)-l-homoserine ***lactone*** (3O, C(12)-HSL), is described. Twenty-four single or combination systematic alterations of the structural components of 3O, C(12)-HSL were introduced as described. Given the already defined immunological profile of the parent compound, 3O, C(12)-HSL, these compounds were assayed for their ability to ***inhibit*** murine and human leucocyte proliferation and TNF-alpha secretion by lipopolysaccharide (LPS) stimulated human leucocytes in order to provide an initial structure-activity profile. From IC(50) values obtained with a murine splenocyte proliferation assay, it is apparent that acylated l-homoserine ***lactones*** with an 11-13 C side chain containing either a 3-oxo or a 3-hydroxy group are optimal structures for immune suppressive activity. These derivatives of 3O, C(12)-HSL with monounsaturation and/or a terminal nonpolar substituent on the side chain were also potent immune suppressive agents. However, structures lacking the homoserine ***lactone*** ring, structures lacking the l-configuration at the chiral center, and those with polar substituents were essentially devoid of activity. The ability of compounds selected from the optimal activity range to modulate mitogen-driven human peripheral blood mononuclear cell proliferation and LPS-induced TNF-alpha secretion indicates the suitability of these compounds for further investigation in relation to their molecular mechanisms of action in TNF-alpha driven immunological diseases, particularly autoimmune diseases such as psoriasis, rheumatoid arthritis, and type 1 (autoimmune) diabetes.

L19 ANSWER 16 OF 87 SCISEARCH COPYRIGHT 2003 THOMSON ISI
AN 2002:825376 SCISEARCH
GA The Genuine Article (R) Number: 600KY
TI Quorum-sensing in Rhizobium
AU Wisniewski-Dye F (Reprint); Downie J A
CS Univ Lyon 1, CNRS, UMR 5557, Lab Ecol Microbienne, F-69622 Villeurbanne,

France (Reprint); John Innes Ctr Plant Sci Res, Norwich NR4 7UH, Norfolk, England
CYA France; England
SO ANTONIE VAN LEEUWENHOEK INTERNATIONAL JOURNAL OF GENERAL AND MOLECULAR MICROBIOLOGY, (SEP 2002) Vol. 81, No. 1-4, pp. 397-407.
Publisher: KLUWER ACADEMIC PUBL, VAN GODEWIJCKSTRAAT 30, 3311 GZ DORDRECHT, NETHERLANDS.
ISSN: 0003-6072.
DT Article; Journal
LA English
REC Reference Count: 77
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB Quorum-sensing signals are found in many species of legume-nodulating rhizobia. In a well-characterized strain of R. leguminosarum biovar viciae, a variety of ***autoinducers*** are synthesised, and all have been identified as N-acyl-homoserine ***lactones*** . One of these N-acyl-homoserine ***lactones*** , is N-(3-hydroxy-7-cis-tetradecenoyl)-Lhomoserine ***lactone*** , previously known as small bacteriocin, which ***inhibits*** the growth of several R. leguminosarum strains. The cinRI locus is responsible for the production of small bacteriocin. CinR induces cinI in response to the AHL made by CinI, thus forming a positive autoregulatory induction loop. A complex cascade of quorum-sensing loops was characterized, in which the cinIR locus appears to be the master control for three other AHL-dependent quorum-sensing control systems. These systems include the raiI/raiR, traI/triR and rhiI/rhiR. Other rhizobial strains appear to share some of these quorum sensing loci, but not all loci are found in all strains. Small bacteriocin along with the other N-acyl-homoserine ***lactones*** produced by these three AHL-based control systems regulate (i) growth ***inhibition*** of sensitive strains, (ii) transfer of the symbiotic plasmid pRL1JI, and (iii) expression of the rhizosphere-expressed (rhi) genes that influence nodulation. Some of the genes regulated by these systems have been identified. While the functions of some, such as the trb operon regulated by triR are clear, several of the regulated genes have no homologues of known function. It is anticipated that several other genes regulated by these systems have yet to be identified. Therefore, despite the regulation of one of the most complex quorum-sensing cascade being understood, several of the functions regulated by the quorum-sensing genes remain to be elucidated.

L19 ANSWER 17 OF 87 SCISEARCH COPYRIGHT 2003 THOMSON ISI
AN 2002:372879 SCISEARCH
GA The Genuine Article (R) Number: 546PX
TI New synthetic analogues of N-acyl homoserine ***lactones*** as agonists or antagonists of transcriptional regulators involved in bacterial quorum sensing
AU Reverchon S (Reprint); Chantegrel B; Deshayes C; Doutheau A; Cotte-Pattat N
CS INSA, CNRS, UCB UMR 5122, Unite Microbiol & Genet, Batiment Louis Pasteur, 11 Ave Jean Capelle, F-69621 Villeurbanne, France (Reprint); INSA, CNRS, UCB UMR 5122, Unite Microbiol & Genet, F-69621 Villeurbanne, France; INSA, Chim Organ Lab, F-69621 Villeurbanne, France
CYA France
SO BIOORGANIC & MEDICINAL CHEMISTRY LETTERS, (22 APR 2002) Vol. 12, No. 8, pp. 1153-1157.

Publisher: PERGAMON-ELSEVIER SCIENCE LTD, THE BOULEVARD, LANGFORD LANE, KIDLINGTON, OXFORD OX5 1GB, ENGLAND.
ISSN: 0960-894X.
DT Article; Journal
LA English
REC Reference Count: 18
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB A series of 22 novel synthetic N-acyl-homoserine ***lactone*** analogues has been evaluated for both their inducing activity and their ability to competitively ***inhibit*** the action of 3-oxo-hexanol-L-homoserine ***lactone*** , the natural inducer of bioluminescence in the bacterium Vibrio fischeri. In the newly synthesized analogues, the extremity of the acyl chain was modified by introducing ramified alkyl, cycloalkyl or aryl substituents at the C-4 position. Most of the analogues bearing either acyclic or cyclic alkyl substituents showed inducing activity. In contrast, the phenyl substituted analogues displayed significant antagonist activity. We hypothesized that the antagonist activity of the phenyl compounds may result from the interaction between the aryl group and aromatic amino acids of the Lux R receptor, preventing it from adopting the active dimeric form.

L19 ANSWER 18 OF 87 SCISEARCH COPYRIGHT 2003 THOMSON ISI
AN 2002:364354 SCISEARCH
GA The Genuine Article (R) Number: 543CV
TI Halogenated furanones ***inhibit*** quorum sensing through accelerated LuxR turnover
AU Manefield M; Rasmussen T B; Henzter M; Andersen J B; Steinberg P; Kjelleberg S; Givskov M (Reprint)
CS Tech Univ Denmark, Dept Microbiol, Bldg 221, DK-2800 Lyngby, Denmark (Reprint); Tech Univ Denmark, Dept Microbiol, DK-2800 Lyngby, Denmark; Univ New S Wales, Sch Microbiol & Immunol, Sydney, NSW, Australia; Univ New S Wales, Ctr Marine Biofouling & Bioinnovat, Sydney, NSW, Australia
CYA Denmark; Australia
SO MICROBIOLOGY-SGM, (APR 2002) Vol. 148, Part 4, pp. 1119-1127.
Publisher: SOC GENERAL MICROBIOLOGY, MARLBOROUGH HOUSE, BASINGSTOKE RD, SPENCERS WOODS, READING RG7 1AE, BERKS, ENGLAND.
ISSN: 1350-0872.
DT Article; Journal
LA English
REC Reference Count: 44
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB N-acyl-L-homoserine ***lactones*** (AHLs) are co-regulatory ligands required for control of the expression of genes encoding virulence traits in many Gram-negative bacterial species. Recent studies have indicated that AHLs modulate the cellular concentrations of LuxR-type regulatory proteins by binding and fortifying these proteins against proteolytic degradation (Zhu & Winans, 2001). Halogenated furanones produced by the macroallga Delisea pulchra ***inhibit*** AHL-dependent gene expression. This study assayed for an in vivo interaction between a tritiated halogenated furanone and the LuxR protein of Vibrio fischeri overproduced in Escherichia coli. Whilst a stable interaction between the algal metabolite and the bacterial protein was not found, it was noted by Western analysis that the half-life of the protein is reduced up to 100-fold in the presence of halogenated furanones. This suggests that

halogenated furanones modulate LuxR activity but act to destabilize, rather than protect, the AHL-dependent transcriptional activator. The furanone-dependent reduction in the cellular concentration of the LuxR protein was associated with a reduction in expression of a plasmid encoded P-luxl-gfp(ASV) fusion suggesting that the reduction in LuxR concentration is the mechanism by which furanones control expression of AHL-dependent phenotypes. The mode of action by which halogenated furanones reduce cellular concentrations of the LuxR protein remains to be characterized.

L19 ANSWER 19 OF 87 SCISEARCH COPYRIGHT 2003 THOMSON ISI
AN 2002:54621 SCISEARCH
GA The Genuine Article (R) Number: 508KU
TI The cin quorum sensing locus of Rhizobium etli CNPAF512 affects growth and symbiotic nitrogen fixation
AU Daniels R; De Vos D E; Desair J; Raedschelders G; Luyten E; Rosemeyer V; Verreth C; Schoeters E; Vanderleyden J (Reprint); Michiels J
CS Katholieke Univ Leuven, Ctr Microbial & Plant Genet, Kasteelpk Arenberg 20, B-3001 Heverlee, Belgium (Reprint); Katholieke Univ Leuven, Ctr Microbial & Plant Genet, B-3001 Heverlee, Belgium; Katholieke Univ Leuven, Ctr Surface Chem & Catalysis, B-3001 Heverlee, Belgium; Katholieke Univ Leuven, Inst Zool, B-3000 Louvain, Belgium
CYA Belgium
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (4 JAN 2002) Vol. 277, No. 1, pp. 462-468.
Publisher: AMER SOC BIOCHEMISTRY MOLECULAR BIOLOGY INC, 9650 ROCKVILLE PIKE, BETHESDA, MD 20814 USA.
ISSN: 0021-9258.
DT Article; Journal
LA English
REC Reference Count: 36
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB Rhizobium etli CNPAF512 produces an ***autoinducer*** that ***inhibits*** growth of Rhizobium leguminosarum bv. viciae 248 and activates the Agrobacterium tumefaciens tra reporter system. Production of this compound in R. etli is dependent on two genes, named cinR and cinI, postulated to code for a transcriptional regulator and an ***autoinducer*** synthase, respectively. NMR analysis of the purified molecule indicates that the R. etli ***autoinducer*** produced by CinI is a saturated long chain 3-hydroxyacyl-homoserine ***lactone*** , abbreviated as 30H-(slc)-HSL. Using cin-gusA fusions, expression of cinI and cinR was shown to be growth phase-dependent. Deletion analysis of the cinI promoter region indicates that a regulatory element negatively controls cinI expression. Mutational analysis revealed that expression of the cinI gene is positively regulated by the CinR/30H-(slc)-HSL complex. Besides 30H-(slc)-HSL, R. etli produces at least six other ***autoinducer*** molecules, for which the structures have not yet been revealed, and of which the synthesis requires the previously identified rail and raiR genes. At least three different ***autoinducers*** , including a compound co-migrating with 30H-(slc)-HSL, are produced in R. etli bacteroids isolated from bean nodules. This is further substantiated by the observation that cinI and cinR are both expressed under symbiotic conditions. Acetylene reduction activity of nodules induced by the cin mutants was reduced with 60-70% compared with wild-type nodules, indicating that the R. etli 30H-(slc)HSL is involved in the symbiotic process. This was further confirmed by transmission electron microscopy of

nodules induced by the wild type and the cinI mutant. Symbiosomes carrying cinI mutant bacteroids did not fully differentiate compared with wild-type symbiosomes. Finally, it was observed that the cinR gene and raiR control growth of R. etli.

L19 ANSWER 20 OF 87 SCISEARCH COPYRIGHT 2003 THOMSON ISI
AN 2001:794242 SCISEARCH
GA The Genuine Article (R) Number: 476PC
TI Interference with Pseudomonas quinolone signal synthesis ***inhibits*** virulence factor expression by Pseudomonas ***aeruginosa***
AU Calfee M W; Coleman J P; Pesci E C (Reprint)
CS E Carolina Univ, Sch Med, Dept Microbiol & Immunol, BT 132, 600 Moye Blvd, Greenville, NC 27858 USA (Reprint); E Carolina Univ, Sch Med, Dept Microbiol & Immunol, Greenville, NC 27858 USA
CYA USA
SO PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, (25 SEP 2001) Vol. 98, No. 20, pp. 11633-11637.
Publisher: NATL ACAD SCIENCES, 2101 CONSTITUTION AVE NW, WASHINGTON, DC 20418 USA.
ISSN: 0027-8424.
DT Article; Journal
LA English
REC Reference Count: 30
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB Pseudomonas ***aeruginosa*** is an opportunistic pathogen that controls numerous virulence factors through intercellular signals. This bacterium has two quorum-sensing systems (las and rhl), which act through the intercellular signals N-(3-oxododecanoyl)-L-homoserine ***lactone*** (3-oxo-C-12-HSL) and N-butyryl-L-homoserine ***lactone*** (C-4-HSL), respectively. P. ***aeruginosa*** also produces a third intercellular signal that is involved in virulence factor regulation. This signal, 2-heptyl-3-hydroxy-4-quinolone [referred to as the Pseudomonas quinolone signal (PQS)], is a secondary metabolite that is part of the P. ***aeruginosa*** quorum-sensing hierarchy. PQS can induce both lasB (encodes LasB elastase) and rhll (encodes the C4-HSL synthase) in P. ***aeruginosa*** and is produced maximally during the late stationary phase of growth. Because PQS is an intercellular signal that is part of the quorum-sensing hierarchy and controls multiple virulence factors, we began basic studies designed to elucidate its biosynthetic pathway. First, we present data that strongly suggest that anthranilate is a precursor for PQS. P. ***aeruginosa*** converted radiolabeled anthranilate into radioactive PQS, which was bioactive. We also found that an anthranilate analog (methyl anthranilate) would ***inhibit*** the production of PQS. This analog was then shown to have a major negative effect on elastase production by P. ***aeruginosa*** . These data provide evidence that precursors of intercellular signals may provide viable targets for the development of therapeutic treatments that will reduce P. ***aeruginosa*** virulence.

L19 ANSWER 21 OF 87 SCISEARCH COPYRIGHT 2003 THOMSON ISI
AN 2001:23626 SCISEARCH
GA The Genuine Article (R) Number: 384QF
TI How Delisea pulchra furanones affect quorum sensing and swarming motility in Serratia liquefaciens MG1
AU Rasmussen T B; Manefield M; Andersen J B; Eberl L; Anthoni U;

Christophersen C; Steinberg P; Kjelleberg S; Givskov M (Reprint)
CS Tech Univ Denmark, Dept Microbiol, DK-2800 Lyngby, Denmark (Reprint); Univ New S Wales, Sch Microbiol & Immunol, Sydney, NSW, Australia; Univ New S Wales, Ctr Marine Biofouling & Bioinnovat, Sydney, NSW, Australia; Tech Univ Munich, Lehrstuhl Mikrobiol, D-85350 Freising, Germany; Univ Copenhagen, HC Orsted Inst, Marine Chem Sect, DK-2100 Copenhagen, Denmark
CYA Denmark; Australia; Germany
SO MICROBIOLOGY-UK, (DEC 2000) Vol. 146, Part 12, pp. 3237-3244.
Publisher: SOC GENERAL MICROBIOLOGY, MARLBOROUGH HOUSE, BASINGSTOKE RD, SPENCERS WOODS, READING RG7 1AE, BERKS, ENGLAND.
ISSN: 1350-0872.
DT Article; Journal
LA English
REC Reference Count: 32
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB Halogenated furanones produced by the benthic marine macroalga Delisea pulchra ***inhibit*** swarming motility of Serratia liquefaciens MG1. This study demonstrates that exogenously added furanones control transcription of the quorum sensing regulated gene swrA in competition with the cognate signal molecule N-butanoyl-L-homoserine ***lactone*** . This in turn results in reduced production of the surface-active compound serrawettin W2, which is crucial for surface translocation of the differentiated swarm cells, It is demonstrated that furanones interfere with interspecies communication during swarming of mixed cultures and that the mode of interference in quorum-sensing control and interspecies communication is not through ***inhibition*** of ***autoinducer*** synthesis.

L19 ANSWER 22 OF 87 SCISEARCH COPYRIGHT 2003 THOMSON ISI
AN 2000:805820 SCISEARCH
GA The Genuine Article (R) Number: 366BR
TI The biocontrol strain Pseudomonas fluorescens F113 produces the Rhizobium small bacteriocin, N-(3-hydroxy-7-cis-tetradecenoyl)homoserine ***lactone*** , via HdtS, a putative novel N-acylhomoserine ***lactone*** synthase
AU Laue R E; Jiang Y; Chhabra S R; Jacob S; Stewart G S A B; Hardman A; Downie J A; OGara F; Williams P (Reprint)
CS UNIV NOTTINGHAM, SCH PHARMACEUT SCI, NOTTINGHAM NG7 2RD, ENGLAND (Reprint); UNIV NOTTINGHAM, SCH PHARMACEUT SCI, NOTTINGHAM NG7 2RD, ENGLAND; NATL UNIV IRELAND UNIV COLL CORK, BIOMERIT RES CTR, DEPT MICROBIOL, CORK, IRELAND; JOHN INNES CTR PLANT SCI RES, NORWICH NR4 7UH, NORFOLK, ENGLAND
CYA ENGLAND; IRELAND
SO MICROBIOLOGY-UK, (OCT 2000) Vol. 146, Part 10, pp. 2469-2480.
Publisher: SOC GENERAL MICROBIOLOGY, MARLBOROUGH HOUSE, BASINGSTOKE RD, SPENCERS WOODS, READING RG7 1AE, BERKS, ENGLAND.
ISSN: 1350-0872.
DT Article; Journal
FS LIFE
LA English
REC Reference Count: 59
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB Several different species of Pseudomonas produce N-acylhomoserine ***lactones*** (AHLs), quorum-sensing signal molecules which are involved in the cell-density-dependent control of secondary metabolite and

virulence gene expression. When Pseudomonas fluorescens F113 was cross-streaked against AHL biosensors capable of sensitively detecting either short (C-4-C-8) or long (C-10-C-14) acyl chain AHLs, no activity was detectable. However, by extracting cell-free stationary-phase culture supernatants with dichloromethane followed by reverse-phase HPLC, three distinct fractions were obtained capable of activating the AHL biosensors. Three AHLs were subsequently characterized using high-resolution MS and chemical synthesis. These were (i) N-(3-hydroxy-7-cis-tetradecenoyl)homoserine ***lactone*** (30H,C-14:1-HSL), a molecule previously known as the Rhizobium leguminosarum small bacteriocin as a consequence of its growth ***inhibitory*** properties, (ii) N-decamoylhomoserine ***lactone*** (C-10-HSL) and (iii) N-hexanoylhomoserine ***lactone*** (C-6-HSL). A gene (hdtS) capable of directing synthesis of all three P. fluorescens AHLs in Escherichia coli was cloned and sequenced. In vitro transcription/translation of hdtS yielded a protein of approximately 33 kDa capable of directing the synthesis of 3OH,C-14:1-HSL, C-10-HSL and C-6-HSL in E. coli. HdtS does not belong to either of the known AHL synthase families (LuxI or LuxM) and is related to the lysophosphatidic acid acyltransferase family. HdtS may therefore constitute a member of a third protein family capable of AHL biosynthesis.

L19 ANSWER 23 OF 87 SCISEARCH COPYRIGHT 2003 THOMSON ISI
AN 2000:383361 SCISEARCH
GA The Genuine Article (R) Number: 314HW
TI Plants secrete substances that mimic bacterial N-acyl homoserine ***lactone*** signal activities and affect population density-dependent behaviors in associated bacteria
AU Teplitski M; Robinson J B; Bauer W D (Reprint)
CS OHIO STATE UNIV, HORT & CROP SCI DEPT, 2021 COFFEY RD, COLUMBUS, OH 43210 (Reprint); OHIO STATE UNIV, HORT & CROP SCI DEPT, COLUMBUS, OH 43210; UNIV DAYTON, DEPT BIOL, DAYTON, OH 45469
CYA USA
SO MOLECULAR PLANT-MICROBE INTERACTIONS, (JUN 2000) Vol. 13, No. 6, pp. 637-648.
Publisher: AMER PHYTOPATHOLOGICAL SOC, 3340 PILOT KNOB ROAD, ST PAUL, MN 55121.
ISSN: 0894-0282.
DT Article; Journal
FS LIFE; AGRI
LA English
REC Reference Count: 41
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB In gram-negative bacteria, many important changes in gene expression and behavior are regulated in a population density-dependent fashion by N-acyl homoserine ***lactone*** (AHL) signal molecules. Exudates from pea (Pisum sativum) seedlings were found to contain several separable activities that mimicked ABL signals in well-characterized bacterial reporter strains, stimulating AHL-regulated behaviors in some strains while ***inhibiting*** such behaviors in others. The chemical nature of the active mimic compounds is currently unknown, but all extracted differently into organic solvents than common bacterial AHLs. Various species of higher plants in addition to pea were found to secrete AHL mimic activities. The ARL signal-mimic compounds could prove to be important in determining the outcome of interactions between higher plants

and a diversity of pathogenic, symbiotic, and saprophytic bacteria.

L19 ANSWER 24 OF 87 SCISEARCH COPYRIGHT 2003 THOMSON ISI
AN 2000:348038 SCISEARCH
GA The Genuine Article (R) Number: 309JE
TI LuxR- and acyl-homoserine- ***lactone*** -controlled non-lux genes
define a quorum-sensing regulon in Vibrio fischeri
AU Callahan S M; Dunlap P V (Reprint)
CS UNIV MARYLAND, CTR MARINE BIOTECHNOL, INST BIOTECHNOL, COLUMBUS CTR, SUITE
236, 701 E PRATT ST, BALTIMORE, MD 21202 (Reprint); UNIV MARYLAND, CTR
MARINE BIOTECHNOL, INST BIOTECHNOL, COLUMBUS CTR, BALTIMORE, MD 21202
CYA USA
SO JOURNAL OF BACTERIOLOGY, (MAY 2000) Vol. 182, No. 10, pp. 2811-2822.
Publisher: AMER SOC MICROBIOLOGY, 1752 N ST NW, WASHINGTON, DC 20036-2904.
ISSN: 0021-9193.
DT Article; Journal
FS LIFE
LA English
REC Reference Count: 69
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB The luminescence (lux) operon (luxICDABEG) of the symbiotic bacterium
Vibrio fischeri is regulated by the transcriptional activator LuxR and two
acyl-homoserine ***lactone*** (acyl-HSL) ***autoinducers*** (the
luxI-dependent 3-oxo-hexanoyl-HSL [3-oxo-C6-HSL] and the ainS-dependent
octanoyl-HSL [C8-HSL]) in a population density-responsive manner called
quorum sensing. To identify quorum-sensing-regulated (QSR) proteins
different from those encoded by lux genes, we examined the protein
patterns of V. fischeri quorum-sensing mutants defective in luxI, ainS,
and luxR by two-dimensional polyacrylamide gel electrophoresis, Five
non-lux QSR proteins, QsrP, RibB, AcfA, QsrV, and QSR 7, were identified;
their production occurred preferentially at high population density,
required both LuxR and 3-oxo-C6-HSL, and was ***inhibited*** by C8-HSL
at low population density. The genes encoding two of the QSR proteins were
characterized: qsrP directs cells to synthesize an apparently novel
periplasmic protein, and ribB is a homolog of the Escherichia coli gene
for 3,4-dihydroxy-2-butanone 4-phosphate synthase, a key enzyme for
riboflavin synthesis. The qsrP and ribB promoter regions each contained a
sequence similar to the lux operon lux box, a 20-bp region of dyad
symmetry necessary for LuxR/3-oxo-C6-HSL-dependent activation of lux:
operon transcription. V. fischeri qsrP and ribB mutants exhibited no
distinct phenotype in culture. However, a qsrP mutant, in competition with
its parent strain, was less successful in colonizing Euprymna scolopes,
the symbiotic host of V. fischeri. The newly identified QSR genes,
together with the fur operon, define a LuxR acyl-HSL-responsive
quorum-sensing regulon in V. fischeri.

L19 ANSWER 25 OF 87 SCISEARCH COPYRIGHT 2003 THOMSON ISI
AN 1999:683619 SCISEARCH
GA The Genuine Article (R) Number: 231PB
TI Characterization of Pseudomonas ***aeruginosa*** Enoyl-Acyl carrier
protein reductase (FabI): a target for the antimicrobial triclosan and its
role in acylated homoserine ***lactone*** synthesis
AU Hoang T T; Schweizer H P (Reprint)
CS COLORADO STATE UNIV, DEPT MICROBIOL, FT COLLINS, CO 80523 (Reprint);
COLORADO STATE UNIV, DEPT MICROBIOL, FT COLLINS, CO 80523

CYA USA
SO JOURNAL OF BACTERIOLOGY, (SEP 1999) Vol. 181, No. 17, pp. 5489-5497.
Publisher: AMER SOC MICROBIOLOGY, 1325 MASSACHUSETTS AVENUE, NW, WASHINGTON, DC 20005-4171.
ISSN: 0021-9193.
DT Article; Journal
FS LIFE
LA English
REC Reference Count: 47
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB The Pseudomonas ***aeruginosa*** fabI structural gene, encoding enoyl-acyl carrier protein (ACP) reductase, was cloned and sequenced. Nucleotide sequence analysis revealed that fabI is probably the last gene in a transcriptional unit that includes a gene encoding an ATP-binding protein of an ABC transporter of unknown function. The FabI protein was similar in size and primary sequence to other bacterial enoyl-ACP reductases, and it contained signature motifs for the FAD-dependent pyridine nucleotide reductase and glucose/ribitol dehydrogenase families, respectively. The chromosomal fabI gene was disrupted, and the resulting mutant was viable but possessed only 62% of the total enoyl-ACP reductase activity found in wild-type cell extracts. The fabI-encoded enoyl-ACP reductase activity was NADH dependent and ***inhibited*** by triclosan; the residual activity in the fabI mutant was also NADH dependent but not ***inhibited*** by triclosan. An polyhistidine-tagged FabI protein was purified and characterized. Purified FabI (i) could use NADH but not NADPH as a cofactor; (ii) used both crotonyl-coenzyme A and crotonyl-ACP as substrates, although it was sixfold more active with crotonyl-ACP; and (iii) was efficiently ***inhibited*** by low concentrations of triclosan, A FabI Gly(95)-to-Val active-site amino acid substitution was generated by site-directed mutagenesis, and the mutant protein was purified. The mutant FabI protein retained normal enoyl-ACP reductase activity but was highly triclosan resistant. When coupled to FabI, purified P. ***aeruginosa*** N-butyryl-L-homoserine ***lactone*** (C-4-HSL) synthase, RhlI, could synthesize C-4-HSL from crotonyl-ACP and S-adenosylmethionine. This reaction was NADH dependent and ***inhibited*** by triclosan. The levels of C-4-HSL and N-(3-oxo)-dodecanoyl L-homoserine ***lactones*** were reduced 50% in a fabI mutant, corroborating the role of FabI in acylated homoserine ***lactone*** synthesis in vivo.

L19 ANSWER 26 OF 87 SCISEARCH COPYRIGHT 2003 THOMSON ISI
AN 1999:312675 SCISEARCH
GA The Genuine Article (R) Number: 187BP
TI Acyl homoserine- ***lactone*** quorum-sensing signal generation
AU Parsek M R; Val D L; Hanzelka B L; Cronan J E; Greenberg E P (Reprint)
CS UNIV IOWA, DEPT MICROBIOL, IOWA CITY, IA 52242 (Reprint); UNIV ILLINOIS, DEPT MICROBIOL, URBANA, IL 61801; UNIV ILLINOIS, DEPT BIOCHEM, URBANA, IL 61801; UNIV IOWA, DEPT MICROBIOL, IOWA CITY, IA 52242
CYA USA
SO PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, (13 APR 1999) Vol. 96, No. 8, pp. 4360-4365.
Publisher: NATL ACAD SCIENCES, 2101 CONSTITUTION AVE NW, WASHINGTON, DC 20418.
ISSN: 0027-8424.
DT Article; Journal

FS LIFE
LA English
REC Reference Count: 35
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB Acyl homoserine ***lactones*** (acyl-HSLs) are important intercellular signaling molecules used by many bacteria to monitor their population density in quorum-sensing control of gene expression. These signals are synthesized by members of the LuxI family of proteins. To understand the mechanism of acyl-HSL synthesis we have purified the Pseudomonas ***aeruginosa*** RhlI protein and analyzed the kinetics of acyl-HSL synthesis by this enzyme. Purified RhlI catalyzes the synthesis of acyl-HSLs from acyl-acyl carrier proteins and S-adenosylmethionine. An analysis of the patterns of product ***inhibition*** indicated that RhlI catalyzes signal synthesis by a sequential, ordered reaction mechanism in which S-adenosylmethionine binds to RhlI as the initial step in the enzymatic mechanism. Because pathogenic bacteria such as P. ***aeruginosa*** use acyl-HSL signals to regulate virulence genes, an understanding of the mechanism of signal synthesis and identification of ***inhibitors*** of signal synthesis has implications for development of quorum sensing-targeted antivirulence molecules.

L19 ANSWER 27 OF 87 SCISEARCH COPYRIGHT 2003 THOMSON ISI
AN 1999:172835 SCISEARCH
GA The Genuine Article (R) Number: 169NB
TI Current topics in signal transduction in bacteria
AU Hellingwerf K J (Reprint); Crielaard W C; deMattos M J T; Hoff W D; Kort R; Verhamme D T; AvignoneRossa C
CS UNIV AMSTERDAM, BIOCTR AMSTERDAM, EC SLATER, MICROBIOL LAB, KRUISLAAN 403, AMSTERDAM, NETHERLANDS (Reprint)
CYA NETHERLANDS
SO ANTONIE VAN LEEUWENHOEK INTERNATIONAL JOURNAL OF GENERAL AND MOLECULAR MICROBIOLOGY, (NOV 1998) Vol. 74, No. 4, pp. 211-227.
Publisher: KLUWER ACADEMIC PUBL, SPUIBOULEVARD 50, PO BOX 17, 3300 AA DORDRECHT, NETHERLANDS.
ISSN: 0003-6072.
DT General Review; Journal
FS LIFE
LA English
REC Reference Count: 143
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB Among the signal transfer systems in bacteria two types predominate: two-component regulatory systems and quorum sensing systems. Both types of system can mediate signal transfer across the bacterial cell envelope; however, the signalling molecule typically is not taken up into the cells in the former type of system, whereas it usually is in the latter. The Two-component systems include the recently described (eukaryotic) phosphorelay systems; quorum sensing systems can be based upon ***autoinducers*** of the N-acylated homoserine ***lactones*** , and on ***autoinducers*** of a peptidic nature.

A single bacterial cell contains many signalling modules that primarily operate in parallel. This may give rise to neural-network behaviour. Recently, however, for both types of basic signal transfer modules, it has been demonstrated that they also can be organised in series (i.e. in a hierarchical order). Besides their hierarchical position in the signal transduction network of the cell, the spatial distribution of individual

signalling modules may also be an important factor in their efficiency in signal transfer.

Many challenges lie hidden in future work to understand these signal transfer processes in more detail. These are discussed here, with emphasis on the mutual interactions between different signal transfer processes. Successful contributions to this work will require rigorous mathematical modelling of the performance of signal transduction components, and -networks, as well as studies on light-sensing signal transduction systems, because of the unsurpassed time resolution obtainable in those latter systems, the opportunity to apply repeated reproducible stimuli, etc.

The increased understanding of bacterial behaviour that already has resulted - and may further result - from these studies, can be used to fine-tune the beneficial activities of bacteria and or more efficiently ***inhibit*** their deleterious ones.

L19 ANSWER 28 OF 87 SCISEARCH COPYRIGHT 2003 THOMSON ISI
AN 1998:795377 SCISEARCH
GA The Genuine Article (R) Number: 127JD
TI Analogs of the ***autoinducer*** 3-oxooctanoyl-homoserine ***lactone*** strongly ***inhibit*** activity of the TraR protein of Agrobacterium tumefaciens
AU Zhu J; Beaber J W; More M I; Fuqua C; Eberhard A; Winans S C (Reprint)
CS CORNELL UNIV, MICROBIOL SECT, ITHACA, NY 14853 (Reprint); CORNELL UNIV, MICROBIOL SECT, ITHACA, NY 14853; TRINITY UNIV, DEPT BIOL, SAN ANTONIO, TX 78212; ITHACA COLL, DEPT CHEM, ITHACA, NY 14850
CYA USA
SO JOURNAL OF BACTERIOLOGY, (OCT 1998) Vol. 180, No. 20, pp. 5398-5405.
Publisher: AMER SOC MICROBIOLOGY, 1325 MASSACHUSETTS AVENUE, NW, WASHINGTON, DC 20005-4171.
ISSN: 0021-9193.
DT Article; Journal
FS LIFE
LA English
REC Reference Count: 47
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB The TraR and TraI proteins of Agrobacterium tumefaciens mediate cell-density-dependent expression of the Ti plasmid tra regulon. TraI synthesizes the ***autoinducer*** pheromone N-(3-oxooctanoyl)-L-homoserine ***lactone*** (3-oxo-C-8-HSL), while TraR is an 3-oxo-C-8-HSL-responsive transcriptional activator. We have compared the abilities of 3-oxo-C-8-HSL and 32 related compounds to activate expression of a TraR-regulated promoter. In a strain that expresses wild-type levels of TraR, only 3-oxo-C-8-HSL was strongly stimulatory, four compounds were detectably active only at high concentrations, and the remaining 28 compounds were inactive. Furthermore, many of these compounds were potent antagonists. In contrast, almost all of these compounds were stimulatory in a congenic strain that overexpresses TraR and no compound was a potent antagonist. We propose a model in which ***autoinducers*** enhance the affinity of TraR either for other TraR monomers or for DNA binding sites and that overexpression of TraR potentiates this interaction by mass action. Wild-type A. tumefaciens released a rather broad spectrum of ***autoinducers*** , including several that antagonize induction of a wild-type strain. However, under all conditions tested, 3-oxo-C-8-HSL was more abundant than any other analog, indicating that other released

autoinducers do not interfere with tra gene induction. We conclude that (i) in wild-type strains, only 3-oxo-C-8-HSL significantly stimulates tra gene expression, while many ***autoinducer*** analogs are potent antagonists; (ii) TraR overexpression increases agonistic activity of ***autoinducer*** analogs, allowing sensitive biodetection of many antoinducers; and (iii) ***autoinducer*** stimulatory activity is potentiated by TraR overproduction, suggesting that ***autoinducers*** may shift an equilibrium between TraR monomers and dimers or oligomers. When ***autoinducer*** specificities of other quorum-sensing proteins are tested, care should be taken not to overexpress those proteins.

L19 ANSWER 29 OF 87 SCISEARCH COPYRIGHT 2003 THOMSON ISI
AN 1998:147609 SCISEARCH
GA The Genuine Article (R) Number: YW758
TI luxI- and luxR-homologous genes of Rhizobium etli CNPAF512 contribute to synthesis of ***autoinducer*** molecules and nodulation of Phaseolus vulgaris
AU Rosemeyer V; Michiels J; Verreth C; Vanderleyden J (Reprint)
CS FA JANSSENS LAB GENET, KARDINAAL MERCIERLAAN 92, B-3001 HEVERLEE, BELGIUM (Reprint); FA JANSSENS LAB GENET, B-3001 HEVERLEE, BELGIUM
CYA BELGIUM
SO JOURNAL OF BACTERIOLOGY, (FEB 1998) Vol. 180, No. 4, pp. 815-821.
Publisher: AMER SOC MICROBIOLOGY, 1325 MASSACHUSETTS AVENUE, NW, WASHINGTON, DC 20005-4171.
ISSN: 0021-9193.
DT Article; Journal
FS LIFE
LA English
REC Reference Count: 63
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB Autoinduction plays an important role in intercellular communication among symbiotic and pathogenic gram-negative bacteria. We report here that a nitrogen-fixing symbiont of Phaseolus vulgaris, Rhizobium etli CNPAF512, produces at least seven different ***autoinducer*** molecules. One of them exhibits a growth- ***inhibitory*** effect like that of the bacteriocin small [N-(3R-hydroxy-7-cis-tetradecanoyl)-L-homoserine ***lactone***]. At least two of the other ***autoinducers*** are synthesized by a LuxI-homologous ***autoinducer*** synthase. The corresponding luxI homologous gene (rail) and a luxR homolog (raiR) have been identified and characterized. Enhanced expression of rail is dependent on cell density and on the presence of one or more ***autoinducer*** molecules synthesized by R. etli CNPAF512. A rail mutant was shown to release only three different ***autoinducer*** molecules; a raiR mutant releases four different ***autoinducer*** molecules. Examination of different mutants for nodulation of beans showed that rail is involved in the restriction of nodule number, whereas nitrogen-fixing activity in terms of acetylene reduction per nodule was not affected.

L19 ANSWER 30 OF 87 SCISEARCH COPYRIGHT 2003 THOMSON ISI
AN 1998:52566 SCISEARCH
GA The Genuine Article (R) Number: YP559
TI The Pseudomonas ***aeruginosa*** quorum-sensing signal molecule N-(3-oxododecanoyl)-1-homoserine ***lactone*** has immunomodulatory activity

AU Telford G; Wheeler D; Williams P; Tomkins P T; Appleby P; Sewell H; Stewart G S A B; Bycroft B W; Pritchard D I (Reprint)

CS UNIV NOTTINGHAM, DEPT LIFE SCI, NOTTINGHAM NG7 2RD, ENGLAND (Reprint); UNIV NOTTINGHAM, DEPT LIFE SCI, NOTTINGHAM NG7 2RD, ENGLAND; UNIV NOTTINGHAM, DEPT PHARMACEUT SCI, NOTTINGHAM NG7 2RD, ENGLAND; KNOLL PHARMACEUT, RES DEPT R3, NOTTINGHAM NG1 1GF, ENGLAND; UNIV NOTTINGHAM HOSP, DEPT CLIN LAB SCI, DIV IMMUNOL, NOTTINGHAM NG7 2UH, ENGLAND; UNIV NOTTINGHAM, DEPT APPL BIOCHEM & FOOD SCI, LOUGHBOROUGH LE12 5RD, LEICS, ENGLAND

CYA ENGLAND

SO INFECTION AND IMMUNITY, (JAN 1998) Vol. 66, No. 1, pp. 36-42.
Publisher: AMER SOC MICROBIOLOGY, 1325 MASSACHUSETTS AVENUE, NW, WASHINGTON, DC 20005-4171.
ISSN: 0019-9567.

DT Article; Journal

FS LIFE

LA English

REC Reference Count: 35

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Diverse gram-negative bacterial cells communicate with each other by using diffusible N-acyl homoserine ***lactone*** (AHL) signal molecules to coordinate gene expression with cell population density. Accumulation of AHLs above a threshold concentration renders the population "quorate," and the appropriate target gene is activated. In pathogenic bacteria, such as Pseudomonas ***aeruginosa*** , AHL-mediated quorum sensing is involved in the regulation of multiple virulence determinants, We therefore sought to determine whether the immune system is capable of responding to these bacterial signal molecules, Consequently the immunomodulatory properties of the AHLs N-(3-oxododecanoyl)-L-homoserine ***lactone*** (OdDHL) and N-(3-oxohexanoyl)-L-homoserine ***lactone*** (OHHL) were evaluated in murine and human leukocyte immunoassays in vitro. OdDHL, but not OHHL, ***inhibited*** lymphocyte proliferation and tumor necrosis factor alpha production by lipopolysaccharide-stimulated macrophages. Furthermore, OdDHL simultaneously and potently down-regulated the production of IL-12, a Th-1-supportive cytokine. At high concentrations (>7 x 10(-5) M) OdDHL ***inhibited*** antibody production by keyhole limpet hemocyanin-stimulated spleen cells, but at lower concentrations (<7 x 10(-5) M), antibody production was stimulated, apparently by increasing the proportion of the immunoglobulin G1 (IgG1) isotype, OdDHL also promoted IgE production by interleukin-4-stimulated human peripheral blood mononuclear cells, These data indicate that OdDHL mag influence the Th-1-Th-2 balance in the infected host and suggest that, in addition to regulating the expression of virulence determinants, OdDHL may contribute to the pathogenesis of P. ***aeruginosa*** infections by functioning as a virulence determinant per se.

L19 ANSWER 31 OF 87 SCISEARCH COPYRIGHT 2003 THOMSON ISI

AN 1998:24527 SCISEARCH

GA The Genuine Article (R) Number: YM496

TI Quorum sensing and Chromobacterium violaceum: exploitation of violacein production and ***inhibition*** for the detection of N-acylhomoserine ***lactones***

AU McClean K H; Winson M K; Fish L; Taylor A; Chhabra S R; Camara M; Daykin M; Lamb J H; Swift S; Bycroft B W; Stewart G S A B; Williams P (Reprint)

CS UNIV NOTTINGHAM, DEPT PHARMACEUT SCI, UNIV PK, NOTTINGHAM NG7 2RD, ENGLAND (Reprint); UNIV NOTTINGHAM, DEPT PHARMACEUT SCI, NOTTINGHAM NG7 2RD, ENGLAND; UNIV NOTTINGHAM, DEPT APPL BIOCHEM & FOOD SCI, LOUGHBOROUGH LE12 5RD, LEICS, ENGLAND; UNIV LEICESTER, MRC, TOXICOL UNIT, LEICESTER LE1 9HN, LEICS, ENGLAND

CYA ENGLAND

SO MICROBIOLOGY-UK, (DEC 1997) Vol. 143, Part 12, pp. 3703-3711.
Publisher: SOC GENERAL MICROBIOLOGY, MARLBOROUGH HOUSE, BASINGSTOKE RD, SPENCERS WOODS, READING, BERKS, ENGLAND RG7 1AE.
ISSN: 1350-0872.

DT Article; Journal

FS LIFE

LA English

REC Reference Count: 36

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Quorum sensing relies upon the interaction of a diffusible signal molecule with a transcriptional activator protein to couple gene expression with cell population density. In Cram-negative bacteria, such signal molecules are usually N-acylhomoserine ***lactones*** (AHLs) which differ in the structure of their N-acyl side chains. Chromobacterium violaceum, a Cram-negative bacterium commonly found in soil and water, produces the characteristic purple pigment violacein. Previously the authors described a violacein-negative, mini-Tn5 mutant of C. violaceum (CV026) in which pigment production can be restored by incubation with supernatants from the wild-type strain. To develop this mutant as a general biosensor for AHLs. the natural C. violaceun, AHL molecule was first chemically characterized. By using solvent extraction, HPLC and mass spectrometry, a single AHL, N-hexanoyl-L-homoserine ***lactone*** (HHL), was identified in wild-type C. violaceum culture supernatants which was absent from CV026. Since the production of violacein constitutes a simple assay for the detection of AHLs, we explored the ability of CV026 to respond to a series of synthetic AHL and N-acylhomocysteine thiolactone (ART) analogues. In CV026, violacein is inducible by all the AHL and AHT compounds evaluated with N-acyl side chains from C-4 to C-8 in length, with varying degrees of sensitivity. Although AHL compounds with N-acyl side chains from C-10 to C-14 are unable to induce violacein production, if an activating AHL (e.g. HHL) is incorporated into the agar, these long-chain AHLs can be detected by their ability to ***inhibit*** violacein production. The versatility of CV026 in facilitating detection of AHL mixtures extracted from culture supernatants and separated by thin-layer chromatography is also demonstrated. These simple bioassays employing CV026 thus greatly extend the ability to detect a wide spectrum of AHL signal molecules.

L19 ANSWER 32 OF 87 SCISEARCH COPYRIGHT 2003 THOMSON ISI

AN 97:431904 SCISEARCH

GA The Genuine Article (R) Number: XB705

TI Cell density-regulated recovery of starved biofilm populations of ammonia-oxidizing bacteria

AU Batchelor S E; Cooper M; Chhabra S R; Glover L A; Stewart G S A B; Williams P; Prosser J I (Reprint)

CS UNIV ABERDEEN, DEPT MOL & CELL BIOL, INST MED SCI, ABERDEEN AB25 2ZD, SCOTLAND (Reprint); UNIV ABERDEEN, DEPT MOL & CELL BIOL, INST MED SCI, ABERDEEN AB25 2ZD, SCOTLAND; UNIV NOTTINGHAM, FAC AGR & FOOD SCI, DEPT APPL BIOCHEM & FOOD SCI, LOUGHBOROUGH LE12 5RD, LEICS, ENGLAND; UNIV

NOTTINGHAM, DEPT PHARMACEUT SCI, NOTTINGHAM NG7 2RD, ENGLAND
CYA SCOTLAND; ENGLAND
SO APPLIED AND ENVIRONMENTAL MICROBIOLOGY, (JUN 1997) Vol. 63, No. 6, pp. 2281-2286.
Publisher: AMER SOC MICROBIOLOGY, 1325 MASSACHUSETTS AVENUE, NW, WASHINGTON, DC 20005-4171.
ISSN: 0099-2240.
DT Article; Journal
FS LIFE; AGRI
LA English
REC Reference Count: 28
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB The speed of recovery of cell suspensions and biofilm populations of the ammonia oxidizer Nitrosomonas europaea, following starvation was determined. Stationary-phase cells, washed and resuspended in ammonium-free inorganic medium, were starved for periods of up to 42 days, after which the medium was supplemented with ammonium and subsequent growth was monitored by measuring nitrite concentration changes. Cultures exhibited a lag phase prior to exponential nitrite production, which increased from 8.72 h (no starvation) to 153 h after starvation for 42 days. Biofilm populations of N. europaea colonizing sand or soil particles in continuous-flow, fixed column reactors were starved by continuous supply of ammonium-free medium. Following resupply of ammonium, starved biofilms exhibited no lag phase prior to nitrite production, even after starvation for 43.2 days, although there was evidence of cell loss during starvation. Biofilm formation will therefore provide a significant ecological advantage for ammonia oxidizers in natural environments in which the substrate supply is intermittent, Cell density-dependent phenomena in a number of gram-negative bacteria are mediated by N-acyl homoserine ***lactones*** (AHL), including N- (3-oxohexanoyl)-L-homoserine ***lactone*** (OHHL). Addition of both ammonium and OHHL to cell suspensions starved for 28 days decreased the lag phase in a concentration-dependent manner from 53.4 h to a minimum of 10.8 h, AHL production by N. europaea was detected by using a luxR-luxAB AHL reporter system. The results suggest that rapid recovery of high-density biofilm populations may be due to production and accumulation of OHHL to levels not possible in relatively low-density cell suspensions.

L19 ANSWER 33 OF 87 SCISEARCH COPYRIGHT 2003 THOMSON ISI
AN 97:366046 SCISEARCH
GA The Genuine Article (R) Number: WX574
TI Quorum sensing in Vibrio anguillarum: Characterization of the vanI/vanR locus and identification of the ***autoinducer*** N-(3-oxodecanoyl)-L-homoserine ***lactone***
AU Milton D L (Reprint); Hardman A; Camara M; Chhabra S R; Bycroft B W; Stewart G S A B; Williams P
CS UMEA UNIV, DEPT CELL & MOL BIOL, S-90187 UMEA, SWEDEN (Reprint); UNIV NOTTINGHAM, DEPT PHARMACEUT SCI, NOTTINGHAM NG7 2RD, ENGLAND; UNIV NOTTINGHAM, DEPT APPL BIOCHEM & FOOD SCI, LOUGHBOROUGH LE12 5RD, LEICS, ENGLAND
CYA SWEDEN; ENGLAND
SO JOURNAL OF BACTERIOLOGY, (MAY 1997) Vol. 179, No. 9, pp. 3004-3012.
Publisher: AMER SOC MICROBIOLOGY, 1325 MASSACHUSETTS AVENUE, NW, WASHINGTON, DC 20005-4171.
ISSN: 0021-9193.

DT Article; Journal
FS LIFE
LA English
REC Reference Count: 59
ABSTRACT IS AVAILABLE IN TIIE ALL AND IALL FORMATS
AB Certain gram-negative pathogens are known to control virulence gene expression through cell-cell communication via small diffusible signal molecules termed ***autoinducers*** . This intercellular signal transduction mechanism termed quorum sensing depends on the interaction of an N-acylhomoserine ***lactone*** (AHL) auto-inducer molecule with a receptor protein belonging to the LuxR family of positive transcriptional activators, Vibrio anguillarum is a gram-negative pathogen capable of causing a terminal hemorrhagic septicemia known as vibriosis in fish such as rainbow trout. in this study, we sought to determine whether V. anguillarum employs AHLs to regulate virulence gene expression. Spent V. anguillarum culture supernatants stimulated bioluminescence in a recombinant lux-based Escherichia coli AHL biosensor strain, whereas they both stimulated and ***inhibited*** AHL-mediated violacein pigment production in Chromobacterium violaceum. This finding suggested that V. anguillarum may produce multiple AHL signal molecules. Using high-performance liquid chromatography and high-resolution tandem mass spectrometry we identified the major V, anguillarum, AHL as N-(3-oxodecanoyl)-L-homoserine ***lactone*** (ODHL), a structure,which was unequivocally confirmed by chemical synthesis, Tile gene (vanI) responsible for ODHL synthesis was cloned and sequenced and shown to belong to the LuxI family of putative AWL synthases. Further sequencing downstream of vanI revealed a second gene (vanR) related to the LuxR family of transcriptional activators, Although deletion of vanI abolished ODHL synthesis, no reduction of either metalloprotease production or virulence in a fish infection model was observed. However, the vanI mutant remained capable of weakly activating both bioluminescence and violacein in the E. call and C, violaceum biosensors, respectively, indicating the existence of additional layers of AHL-mediated regulatory complexity.

L19 ANSWER 34 OF 87 USPATFULL
AN 2003:188388 USPATFULL
TI Secreted and transmembrane polypeptides and nucleic acids encoding the same
IN Ashkenazi, Avi J., San Mateo, CA, UNITED STATES
Baker, Kevin P., Darnestown, MD, UNITED STATES
Botstein, David, Belmont, CA, UNITED STATES
Desnoyers, Luc, San Francisco, CA, UNITED STATES
Eaton, Dan L., San Rafael, CA, UNITED STATES
Ferrara, Napoleone, San Francisco, CA, UNITED STATES
Filvaroff, Ellen, San Francisco, CA, UNITED STATES
Fong, Sherman, Alameda, CA, UNITED STATES
Gao, Wei-Qiang, Palo Alto, CA, UNITED STATES
Gerber, Hanspeter, San Francisco, CA, UNITED STATES
Gerritsen, Mary E., San Mateo, CA, UNITED STATES
Goddard, Audrey, San Francisco, CA, UNITED STATES
Godowski, Paul J., Burlingame, CA, UNITED STATES
Girmaldi, J. Chirstopher, San Francisco, CA, UNITED STATES
Gurney, Austin L., Belmont, CA, UNITED STATES
Hillan, Kenneth J., San Francisco, CA, UNITED STATES
Kljavin, Ivar J., Lafayette, CA, UNITED STATES

Kuo, Sophia S., San Francisco, CA, UNITED STATES
Napier, Mary A., Hillsborough, CA, UNITED STATES
Pan, James, Belmont, CA, UNITED STATES
Paoni, Nicholas F., Belmont, CA, UNITED STATES
Roy, Margaret Ann, San Francisco, CA, UNITED STATES
Shelton, David L., Oakland, CA, UNITED STATES
Stewart, Timothy A., San Francisco, CA, UNITED STATES
Tumas, Daniel, Orinda, CA, UNITED STATES
Williams, P. Mickey, Half Moon Bay, CA, UNITED STATES
Wood, William I., Hillsborough, CA, UNITED STATES
PI US 2003130181 A1 20030710
AI US 2001-978375 A1 20011016 (9)
RLI Continuation of Ser. No. US 2001-918585, filed on 30 Jul 2001, PENDING
PRAI WO 1998-US21141 19981007
DT Utility
FS APPLICATION
LREP Ginger R. Dreger, Knobbe Martens Olson & Bear, Sixteenth Floor, 620 Newport Center Drive, Newport Beach, CA, 92660
CLMN Number of Claims: 57
ECL Exemplary Claim: 1
DRWN 237 Drawing Page(s)
LN.CNT 21204
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is directed to novel polypeptides and to nucleic acid molecules encoding those polypeptides. Also provided herein are vectors and host cells comprising those nucleic acid sequences, chimeric polypeptide molecules comprising the polypeptides of the present invention fused to heterologous polypeptide sequences, antibodies which bind to the polypeptides of the present invention and to methods for producing the polypeptides of the present invention.

L19 ANSWER 35 OF 87 USPATFULL
AN 2003:153404 USPATFULL
TI Compounds, compositions, and methods for controlling biofilms
IN Degenhardt, Charles Raymond, Cincinnati, OH, UNITED STATES
Grayling, Rowan Andrew, Loveland, OH, UNITED STATES
Dille, Christopher Andrew, Erlanger, KY, UNITED STATES
Tansky, Cheryl Sue, Cincinnati, OH, UNITED STATES
PA The Procter & Gamble Company (U.S. corporation)
PI US 2003105072 A1 20030605
AI US 2002-132906 A1 20020425 (10)
PRAI US 2001-287138P 20010427 (60)
DT Utility
FS APPLICATION
LREP THE PROCTER & GAMBLE COMPANY, INTELLECTUAL PROPERTY DIVISION, WINTON HILL TECHNICAL CENTER - BOX 161, 6110 CENTER HILL AVENUE, CINCINNATI, OH, 45224
CLMN Number of Claims: 36
ECL Exemplary Claim: 1
DRWN 4 Drawing Page(s)
LN.CNT 1862
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention provides nitrogen heterocyclic compounds, compositions, and methods for controlling biofilms, i.e., disrupting biofilms, preventing biofilm formation, enhancing biofilms, or modifying

biofilms. Methods for screening test compounds for control of biofilms and devices for use therein are also provided.

L19 ANSWER 36 OF 87 USPATFULL
AN 2003:153330 USPATFULL
TI Secreted and transmembrane polypeptides and nucleic acids encoding the same
IN Ashkenazi, Avi J., San Mateo, CA, UNITED STATES
Baker, Kevin P., Darnestown, MD, UNITED STATES
Botstein, David, Belmont, CA, UNITED STATES
Desnoyers, Luc, San Francisco, CA, UNITED STATES
Eaton, Dan L., San Rafael, CA, UNITED STATES
Ferrara, Napoleone, San Francisco, CA, UNITED STATES
Filvaroff, Ellen, San Francisco, CA, UNITED STATES
Fong, Sherman, Alameda, CA, UNITED STATES
Gao, Wei-Qiang, Palo Alto, CA, UNITED STATES
Gerber, Hanspeter, San Francisco, CA, UNITED STATES
Gerritsen, Mary E., San Mateo, CA, UNITED STATES
Goddard, Audrey, San Francisco, CA, UNITED STATES
Godowski, Paul J., Burlingame, CA, UNITED STATES
Grimaldi, J. Christopher, San Francisco, CA, UNITED STATES
Gurney, Austin L., Belmont, CA, UNITED STATES
Hillan, Kenneth J., San Francisco, CA, UNITED STATES
Kljavin, Ivar J., Lafayette, CA, UNITED STATES
Kuo, Sophia S., San Francisco, CA, UNITED STATES
Napier, Mary A., Hillsborough, CA, UNITED STATES
Pan, James, Belmont, CA, UNITED STATES
Paoni, Nicholas F., Belmont, CA, UNITED STATES
Roy, Margaret Ann, San Francisco, CA, UNITED STATES
Shelton, David L., Oakland, CA, UNITED STATES
Stewart, Timothy A., San Francisco, CA, UNITED STATES
Tumas, Daniel, Orinda, CA, UNITED STATES
Williams, P. Mickey, Half Moon Bay, CA, UNITED STATES
Wood, William I., Hillsborough, CA, UNITED STATES
PA Genentech, Inc. (U.S. corporation)
PI US 2003104998 A1 20030605
AI US 2001-978643 A1 20011016 (9)
RLI Continuation of Ser. No. US 1998-40220, filed on 17 Mar 1998, GRANTED, Pat. No. US 6391311 Continuation of Ser. No. US 1998-105413, filed on 26 Jun 1998, ABANDONED Continuation of Ser. No. US 1998-168978, filed on 7 Oct 1998, ABANDONED Continuation of Ser. No. US 1998-184216, filed on 2 Nov 1998, ABANDONED Continuation of Ser. No. US 1998-187368, filed on 6 Nov 1998, PENDING Continuation of Ser. No. US 1998-202054, filed on 7 Dec 1998, PENDING Continuation of Ser. No. US 1998-218517, filed on 22 Dec 1998, ABANDONED Continuation of Ser. No. US 1999-254465, filed on 5 Mar 1999, GRANTED, Pat. No. US 6410708 Continuation of Ser. No. US 1999-265686, filed on 10 Mar 1999, GRANTED, Pat. No. US 6455283 Continuation of Ser. No. US 1999-267213, filed on 12 Mar 1999, ABANDONED Continuation of Ser. No. US 1999-284291, filed on 12 Apr 1999, ABANDONED Continuation of Ser. No. US 1999-311832, filed on 14 May 1999, PENDING Continuation of Ser. No. US 380137, PENDING Continuation of Ser. No. US 1999-380138, filed on 25 Aug 1999, ABANDONED Continuation of Ser. No. US 1999-380142, filed on 25 Aug 1999, ABANDONED Continuation of Ser. No. US 2000-709238, filed on 8 Nov 2000, ABANDONED Continuation of Ser. No. US 2000-723749, filed on 27 Nov 2000, PENDING Continuation of Ser. No. US

2000-747259, filed on 20 Dec 2000, PENDING Continuation of Ser. No. US
2001-816744, filed on 22 Mar 2001, PENDING Continuation of Ser. No. US
2001-816920, filed on 22 Mar 2001, PENDING Continuation of Ser. No. US
2001-854280, filed on 10 May 2001, PENDING Continuation of Ser. No. US
2001-854208, filed on 10 May 2001, PENDING Continuation of Ser. No. US
2001-872035, filed on 1 Jun 2001, ABANDONED Continuation of Ser. No. US
2001-874503, filed on 5 Jun 2001, PENDING Continuation of Ser. No. US
2001-882636, filed on 14 Jun 2001, ABANDONED Continuation of Ser. No. US
2001-886342, filed on 19 Jun 2001, ABANDONED Continuation of Ser. No. US
2001-918585, filed on 30 Jul 2001, PENDING
PRAI WO 1998-US21141 19981007
DT Utility
FS APPLICATION
LREP Ginger R. Dreger, Knobbe Martens Olson & Bear, Suite 1150, 201 California Street, San Francisco, CA, 94111
CLMN Number of Claims: 57
ECL Exemplary Claim: 1
DRWN 237 Drawing Page(s)
LN.CNT 21741
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is directed to novel polypeptides and to nucleic acid molecules encoding those polypeptides. Also provided herein are vectors and host cells comprising those nucleic acid sequences, chimeric polypeptide molecules comprising the polypeptides of the present invention fused to heterologous polypeptide sequences, antibodies which bind to the polypeptides of the present invention and to methods for producing the polypeptides of the present invention.

L19 ANSWER 37 OF 87 USPATFULL
AN 2003:152940 USPATFULL
TI Compositions and methods for regulating bacterial pathogenesis
IN Bassler, Bonnie L., Princeton, NJ, UNITED STATES
Surette, Michael G., Calgary, CANADA
PI US 2003104606 A1 20030605
AI US 2001-961458 A1 20010921 (9)
RLI Division of Ser. No. US 1999-453976, filed on 2 Dec 1999, PENDING
PRAI US 1998-110570P 19981202 (60)
DT Utility
FS APPLICATION
LREP KNOBBE MARTENS OLSON & BEAR LLP, 2040 MAIN STREET, FOURTEENTH FLOOR, IRVINE, CA, 92614
CLMN Number of Claims: 16
ECL Exemplary Claim: 1
DRWN 16 Drawing Page(s)
LN.CNT 3680
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The production of a purified extracellular bacterial signal called ***autoinducer*** -2 is regulated by changes in environmental conditions associated with a shift from a free-living existence to a colonizing or pathogenic existence in a host organism. ***Autoinducer*** -2 stimulates LuxQ luminescence genes, and is believed also to stimulate a variety of pathogenesis related genes in the bacterial species that produce it. A new class of bacterial genes is involved in the biosynthesis of ***autoinducer*** -2.

STATEMENT AS TO FEDERALLY-SPONSORED RESEARCH

Pursuant to 35 U.S.C. .sctn.202(c), it is acknowledged that the U.S. Government has certain rights in the invention described herein, which was made in part with funds from the National Science Foundation, Grant No. MCB-9506033.

L19 ANSWER 38 OF 87 USPATFULL
AN 2003:152870 USPATFULL
TI Secreted and transmembrane polypeptides and nucleic acids encoding the same
IN Ashkenazi, Avi J., San Mateo, CA, UNITED STATES
Baker, Kevin P., Darnestown, MD, UNITED STATES
Botstein, David, Belmont, CA, UNITED STATES
Desnoyers, Luc, San Francisco, CA, UNITED STATES
Eaton, Dan L., San Rafael, CA, UNITED STATES
Ferrara, Napoleone, San Francisco, CA, UNITED STATES
Filvaroff, Ellen, San Francisco, CA, UNITED STATES
Fong, Sherman, Alameda, CA, UNITED STATES
Gao, Wei-Qiang, Palo Alto, CA, UNITED STATES
Gerber, Hanspeter, San Francisco, CA, UNITED STATES
Gerritsen, Mary E., San Mateo, CA, UNITED STATES
Goddard, Audrey, San Francisco, CA, UNITED STATES
Godowski, Paul J., Burlingame, CA, UNITED STATES
Grimaldi, J. Christopher, San Francisco, CA, UNITED STATES
Gurney, Austin L., Belmont, CA, UNITED STATES
Hillan, Kenneth J., San Francisco, CA, UNITED STATES
Kljavin, Ivar J., Lafayette, CA, UNITED STATES
Kuo, Sophia S., San Francisco, CA, UNITED STATES
Napier, Mary A., Hillsborough, CA, UNITED STATES
Pan, James, Belmont, CA, UNITED STATES
Paoni, Nicholas F., Belmont, CA, UNITED STATES
Roy, Margaret Ann, San Francisco, CA, UNITED STATES
Shelton, David L., Oakland, CA, UNITED STATES
Stewart, Timothy A., San Francisco, CA, UNITED STATES
Tumas, Daniel, Orinda, CA, UNITED STATES
Williams, P. Mickey, Half Moon Bay, CA, UNITED STATES
Wood, William I., Hillsborough, CA, UNITED STATES
PA Genentech, Inc. (U.S. corporation)
PI US 2003104536 A1 20030605
AI US 2001-166709 A1 20011019 (10)
RLI Continuation of Ser. No. US 2001-918585, filed on 30 Jul 2001, PENDING
PRAI WO 1998-US21141 19981007
DT Utility
FS APPLICATION
LREP KNOBBE, MARTENS, OLSON & BEAR, LLP, WO, 2040 MAIN STREET, FOURTEENTH FLOOR, IRVINE, CA, 92614
CLMN Number of Claims: 57
ECL Exemplary Claim: 1
DRWN 237 Drawing Page(s)
LN.CNT 21155
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is directed to novel polypeptides and to nucleic acid molecules encoding those polypeptides. Also provided herein are vectors and host cells comprising those nucleic acid sequences, chimeric

polypeptide molecules comprising the polypeptides of the present invention fused to heterologous polypeptide sequences, antibodies which bind to the polypeptides of the present invention and to methods for producing the polypeptides of the present invention.

L19 ANSWER 39 OF 87 USPATFULL
AN 2003:140902 USPATFULL
TI Secreted and transmembrane polypeptides and nucleic acids encoding the same
IN Ashkenazi, Avi J., San Mateo, CA, UNITED STATES
Baker, Kevin P., Darnestown, MD, UNITED STATES
Botstein, David, Belmont, CA, UNITED STATES
Desnoyers, Luc, San Francisco, CA, UNITED STATES
Eaton, Dan L., San Rafael, CA, UNITED STATES
Ferrara, Napoleone, San Francisco, CA, UNITED STATES
Filvaroff, Ellen, San Francisco, CA, UNITED STATES
Fong, Sherman, Alameda, CA, UNITED STATES
Gao, Wei-Qiang, Palo Alto, CA, UNITED STATES
Gerber, Hanspeter, San Francisco, CA, UNITED STATES
Gerritsen, Mary E., San Mateo, CA, UNITED STATES
Goddard, Audrey, San Francisco, CA, UNITED STATES
Godowski, Paul J., Burlingame, CA, UNITED STATES
Grimaldi, J. Christopher, San Francisco, CA, UNITED STATES
Gurney, Austin L., Belmont, CA, UNITED STATES
Hillan, Kenneth J., San Francisco, CA, UNITED STATES
Kljavin, Ivar J., Lafayette, CA, UNITED STATES
Kuo, Sophia S., San Francisco, CA, UNITED STATES
Napier, Mary A., Hillsborough, CA, UNITED STATES
Pan, James, Belmont, CA, UNITED STATES
Paoni, Nicholas F., Belmont, CA, UNITED STATES
Roy, Margaret Ann, San Francisco, CA, UNITED STATES
Shelton, David L., Oakland, CA, UNITED STATES
Stewart, Timothy A., San Francisco, CA, UNITED STATES
Tumas, Daniel, Orinda, CA, UNITED STATES
Williams, P. Mickey, Half Moon Bay, CA, UNITED STATES
Wood, William I., Hillsborough, CA, UNITED STATES
PA Genentech, Inc. (U.S. corporation)
PI US 2003096744 A1 20030522
AI US 2002-978187 A1 20020128 (9)
RLI Continuation of Ser. No. US 2001-918585, filed on 30 Jul 2001, PENDING Continuation of Ser. No. US 1998-40220, filed on 17 Mar 1998, GRANTED, Pat. No. US 6391311 Continuation of Ser. No. US 1998-105413, filed on 26 Jun 1998, ABANDONED Continuation of Ser. No. US 1998-168978, filed on 7 Oct 1998, ABANDONED Continuation of Ser. No. US 1998-184216, filed on 2 Nov 1998, ABANDONED Continuation of Ser. No. US 1998-187368, filed on 6 Nov 1998, PENDING Continuation of Ser. No. US 1998-202054, filed on 7 Dec 1998, PENDING Continuation of Ser. No. US 1998-218517, filed on 22 Dec 1998, ABANDONED Continuation of Ser. No. US 1999-254465, filed on 5 Mar 1999, GRANTED, Pat. No. US 6410708 Continuation of Ser. No. US 1999-265686, filed on 10 Mar 1999, GRANTED, Pat. No. US 6455283 Continuation of Ser. No. US 1999-267213, filed on 12 Mar 1999, ABANDONED Continuation of Ser. No. US 1999-284291, filed on 12 Apr 1999, ABANDONED Continuation of Ser. No. US 1999-311832, filed on 14 May 1999, PENDING Continuation of Ser. No. US 380137, PENDING Continuation of Ser. No. US 1999-380138, filed on 25 Aug 1999, ABANDONED Continuation of Ser. No. US

1999-380142, filed on 25 Aug 1999, ABANDONED Continuation of Ser. No. US
2000-709238, filed on 8 Nov 2000, ABANDONED Continuation of Ser. No. US
2000-723749, filed on 27 Nov 2000, PENDING Continuation of Ser. No. US
2000-747259, filed on 20 Dec 2000, PENDING Continuation of Ser. No. US
2001-816744, filed on 22 Mar 2001, PENDING Continuation of Ser. No. US
2001-816920, filed on 22 Mar 2001, PENDING Continuation of Ser. No. US
2001-854280, filed on 10 May 2001, PENDING Continuation of Ser. No. US
2001-854208, filed on 10 May 2001, PENDING Continuation of Ser. No. US
2001-872035, filed on 1 Jun 2001, ABANDONED Continuation of Ser. No. US
2001-874503, filed on 5 Jun 2001, PENDING Continuation of Ser. No. US
2001-882636, filed on 14 Jun 2001, ABANDONED Continuation of Ser. No. US
2001-886342, filed on 19 Jun 2001, ABANDONED
PRAI WO 1998-US21141 19981007
DT Utility
FS APPLICATION
LREP KNOBBE, MARTENS, OLSON & BEAR, LLP, 2040 MAIN STREET, FOURTEENTH FLOOR, IRVINE, CA, 92614
CLMN Number of Claims: 57
ECL Exemplary Claim: 1
DRWN 237 Drawing Page(s)
LN.CNT 21776
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is directed to novel polypeptides and to nucleic acid molecules encoding those polypeptides. Also provided herein are vectors and host cells comprising those nucleic acid sequences, chimeric polypeptide molecules comprising the polypeptides of the present invention fused to heterologous polypeptide sequences, antibodies which bind to the polypeptides of the present invention and to methods for producing the polypeptides of the present invention.

L19 ANSWER 40 OF 87 USPATFULL
AN 2003:140535 USPATFULL
TI Compositions and methods for regulating bacterial pathogenesis
IN Bassler, Bonnie L., Princeton, NJ, UNITED STATES
Surette, Michael G., Calgary, CANADA
PI US 2003096376 A1 20030522
AI US 2001-961637 A1 20010921 (9)
RLI Division of Ser. No. US 1999-453976, filed on 2 Dec 1999, PENDING
PRAI US 1998-110570P 19981202 (60)
DT Utility
FS APPLICATION
LREP KNOBBE MARTENS OLSON & BEAR LLP, 2040 MAIN STREET, FOURTEENTH FLOOR, IRVINE, CA, 92614
CLMN Number of Claims: 9
ECL Exemplary Claim: 1
DRWN 16 Drawing Page(s)
LN.CNT 3666
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The production of a purified extracellular bacterial signal called ***autoinducer*** -2 is regulated by changes in environmental conditions associated with a shift from a free-living existence to a colonizing or pathogenic existence in a host organism. ***Autoinducer*** -2 stimulates LuxQ luminescence genes, and is believed also to stimulate a variety of pathogenesis related genes in the bacterial species that produce it. A new class of bacterial genes is

involved in the biosynthesis of ***autoinducer*** -2.

L19 ANSWER 41 OF 87 USPATFULL
AN 2003:140489 USPATFULL
TI Compositions and methods for regulating bacterial pathogenesis
IN Bassler, Bonnie L., Princeton, NJ, UNITED STATES
Surette, Michael G., Calgary, CANADA
PI US 2003096330 A1 20030522
AI US 2001-961507 A1 20010921 (9)
RLI Division of Ser. No. US 1999-453976, filed on 2 Dec 1999, PENDING
PRAI US 1998-110570P 19981202 (60)
DT Utility
FS APPLICATION
LREP KNOBBE MARTENS OLSON & BEAR LLP, 2040 MAIN STREET, FOURTEENTH FLOOR, IRVINE, CA, 92614
CLMN Number of Claims: 10
ECL Exemplary Claim: 1
DRWN 16 Drawing Page(s)
LN.CNT 3671
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The production of a purified extracellular bacterial signal called ***autoinducer*** -2 is regulated by changes in environmental conditions associated with a shift from a free-living existence to a colonizing or pathogenic existence in a host organism. ***Autoinducer*** -2 stimulates LuxQ luminescence genes, and is believed also to stimulate a variety of pathogenesis related genes in the bacterial species that produce it. A new class of bacterial genes is involved in the biosynthesis of ***autoinducer*** -2.

L19 ANSWER 42 OF 87 USPATFULL
AN 2003:140145 USPATFULL
TI Immunogenic conjugates of Gram-negative bacterial ***autoinducer*** molecules and antibodies raised against the same
IN Kende, Andrew S., Pittsford, NY, UNITED STATES
Iglewski, Barbara H., Fairport, NY, UNITED STATES
Smith, Roger, Rochester, NY, UNITED STATES
Phipps, Richard P., Pittsford, NY, UNITED STATES
Pearson, James P., Cambridge, CA, UNITED STATES
PI US 2003095985 A1 20030522
AI US 2002-121207 A1 20020411 (10)
RLI Division of Ser. No. US 1999-293687, filed on 16 Apr 1999, GRANTED, Pat. No. US 6395282
PRAI US 1998-82025P 19980416 (60)
DT Utility
FS APPLICATION
LREP Michael L. Goldman, NIXON PEABODY LLP, Clinton Square, P.O. Box 31051, Rochester, NY, 14603-1051
CLMN Number of Claims: 34
ECL Exemplary Claim: 1
DRWN 3 Drawing Page(s)
LN.CNT 1830
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to an immunogenic conjugate comprising a carrier molecule coupled to an ***autoinducer*** of a Gram negative bacteria. The immunogenic conjugate, when combined with a

pharmaceutically acceptable carrier, forms a suitable vaccine for mammals to prevent infection by the Grain negative bacteria. The immunogenic conjugate is also used to raise and subsequently isolate antibodies or binding portions thereof which are capable of recognizing and binding to the ***autoinducer*** . The antibodies or binding portions thereof are utilized in a method of treating infections, a method of ***inhibiting*** ***autoinducer*** activity, and in diagnostic assays which detect the presence of ***autoinducers*** or ***autoinducer*** antagonists in fluid or tissue samples.

L19 ANSWER 43 OF 87 USPATFULL
AN 2003:123360 USPATFULL
TI Compounds and methods for regulating bacterial growth and pathogenesis
IN Bassler, Bonnie L., Princeton, NJ, United States
Dammel, Carol, Escondido, CA, United States
Schauder, Stephan, Princeton, NJ, United States
Shokat, Kevan, San Francisco, CA, United States
Stein, Jeffrey, San Diego, CA, United States
Surette, Michael G., Calgary, CANADA
PA Princeton University, Princeton, NJ, United States (U.S. corporation)
Quorex Pharmaceuticals, Inc., Carlsbad, CA, United States (U.S. corporation)
University Technologies International, Inc., CANADA (non-U.S. corporation)
PI US 6559176 B1 20030506
AI US 2001-853832 20010510 (9)
PRAI US 2000-254398P 20001207 (60)
US 2000-203000P 20000510 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Weddington, Kevin E.
LREP Knobbe Martens Olson & Bear LLP
CLMN Number of Claims: 29
ECL Exemplary Claim: 1
DRWN 56 Drawing Figure(s); 38 Drawing Page(s)
LN.CNT 4507
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention provides ***autoinducer*** -2 analogs that regulate the activity of ***autoinducer*** -2 and methods of using such analogs for regulating bacterial growth and pathogenesis.

L19 ANSWER 44 OF 87 USPATFULL
AN 2003:120803 USPATFULL
TI ginS
IN Burgess, Nicola A., Lichfield, UNITED KINGDOM
Garcia, Miguel M. Camara, Chesterfield, UNITED KINGDOM
Kirke, David F., Kimberley, UNITED KINGDOM
Meyers, Nicholas L., Huntingdon, UNITED KINGDOM
Williams, Paul, Kimberley, UNITED KINGDOM
PI US 2003083287 A1 20030501
AI US 2001-998279 A1 20011130 (9)
PRAI US 2000-250288P 20001130 (60)
DT Utility
FS APPLICATION
LREP Edward R. Gimmi, SmithKline Beecham Corporation, Corporate Intellectual

Property -U.S., UW2220, P.O. Box 1539, King of Prussia, PA, 19406-0939
CLMN Number of Claims: 10
ECL Exemplary Claim: 1
DRWN 19 Drawing Page(s)
LN.CNT 2634
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention provides ginS polypeptides and, polynucleotides encoding ginS polypeptides and methods for producing such polypeptides by recombinant techniques. Also provided are methods for utilizing ginS polypeptides to screen for antibacterial compounds.

L19 ANSWER 45 OF 87 USPATFULL
AN 2003:120764 USPATFULL
TI Secreted and transmembrane polypeptides and nucleic acids encoding the same
IN Ashkenazi, Avi J., San Mateo, CA, UNITED STATES
Baker, Kevin P., Darnestown, MD, UNITED STATES
Botstein, David, Belmont, CA, UNITED STATES
Desnoyers, Luc, San Francisco, CA, UNITED STATES
Eaton, Dan L., San Rafael, CA, UNITED STATES
Ferrara, Napoleone, San Francisco, CA, UNITED STATES
Filvaroff, Ellen, San Francisco, CA, UNITED STATES
Fong, Sherman, Alameda, CA, UNITED STATES
Gao, Wei-Qiang, Palo Alto, CA, UNITED STATES
Gerber, Hanspeter, San Francisco, CA, UNITED STATES
Gerritsen, Mary E., San Mateo, CA, UNITED STATES
Goddard, Audrey, San Francisco, CA, UNITED STATES
Godowski, Paul J., Burlingame, CA, UNITED STATES
Grimaldi, J. Christopher, San Francisco, CA, UNITED STATES
Gurney, Austin L., Belmont, CA, UNITED STATES
Hillan, Kenneth J., San Francisco, CA, UNITED STATES
Kljavin, Ivar J., Lafayette, CA, UNITED STATES
Kuo, Sophia S., San Francisco, CA, UNITED STATES
Napier, Mary A., Hillsborough, CA, UNITED STATES
Pan, James, Belmont, CA, UNITED STATES
Paoni, Nicholas F., Belmont, CA, UNITED STATES
Roy, Margaret Ann, San Francisco, CA, UNITED STATES
Shelton, David L., Oakland, CA, UNITED STATES
Stewart, Timothy A., San Francisco, CA, UNITED STATES
Tumas, Daniel, Orinda, CA, UNITED STATES
Williams, P. Mickey, Half Moon Bay, CA, UNITED STATES
Wood, William I., Hillsborough, CA, UNITED STATES
PA Genentech, Inc. (U.S. corporation)
PI US 2003083248 A1 20030501
AI US 2001-978757 A1 20011016 (9)
RLI Continuation of Ser. No. US 2001-918585, filed on 30 Jul 2001, PENDING
PRAI WO 1998-US21141 19981007
DT Utility
FS APPLICATION
LREP Ginger R. Dreger, Esq., Knobbe Martens Olson & Bear, Sixteenth Floor, 620 Newport Center Drive, Newport Beach, CA, 92660
CLMN Number of Claims: 57
ECL Exemplary Claim: 1
DRWN 237 Drawing Page(s)
LN.CNT 18522

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention is directed to novel polypeptides and to nucleic acid molecules encoding those polypeptides. Also provided herein are vectors and host cells comprising those nucleic acid sequences, chimeric polypeptide molecules comprising the polypeptides of the present invention fused to heterologous polypeptide sequences, antibodies which bind to the polypeptides of the present invention and to methods for producing the polypeptides of the present invention.

L19 ANSWER 46 OF 87 USPATFULL

AN 2003:112967 USPATFULL

TI Secreted and transmembrane polypeptides and nucleic acids encoding the same

IN Ashkenazi, Avi J., San Mateo, CA, UNITED STATES
Baker, Kevin P., Darnestown, MD, UNITED STATES
Botstein, David, Belmont, CA, UNITED STATES
Desnoyers, Luc, San Francisco, CA, UNITED STATES
Eaton, Dan L., San Rafael, CA, UNITED STATES
Ferrara, Napoleone, San Francisco, CA, UNITED STATES
Filvaroff, Ellen, San Francisco, CA, UNITED STATES
Fong, Sherman, Alameda, CA, UNITED STATES
Gao, Wei-Qiang, Palo Alto, CA, UNITED STATES
Gerber, Hanspeter, San Francisco, CA, UNITED STATES
Gerritsen, Mary E., San Mateo, CA, UNITED STATES
Goddard, Audrey, San Francisco, CA, UNITED STATES
Godowski, Paul J., Burlingame, CA, UNITED STATES
Grimaldi, J. Christopher, San Francisco, CA, UNITED STATES
Gurney, Austin L., Belmont, CA, UNITED STATES
Hillan, Kenneth J., San Francisco, CA, UNITED STATES
Kljavin, Ivar J., Lafayette, CA, UNITED STATES
Kuo, Sophia S., San Francisco, CA, UNITED STATES
Napier, Mary A., Hillsborough, CA, UNITED STATES
Pan, James, Belmont, CA, UNITED STATES
Paoni, Nicholas F., Belmont, CA, UNITED STATES
Roy, Margaret Ann, San Francisco, CA, UNITED STATES
Shelton, David L., Oakland, CA, UNITED STATES
Stewart, Timothy A., San Francisco, CA, UNITED STATES
Tumas, Daniel, Orinda, CA, UNITED STATES
Williams, P. Mickey, Half Moon Bay, CA, UNITED STATES
Wood, William I., Hillsborough, CA, UNITED STATES

PA Genentech, Inc. (U.S. corporation)

PI US 2003077700 A1 20030424

AI US 2001-999830 A1 20011024 (9)

RLI Continuation of Ser. No. US 2001-918585, filed on 30 Jul 2001, PENDING

PRAI WO 1998-US21141 19981007

DT Utility

FS APPLICATION

LREP Ginger R. Dreger, Esq., Knobbe Martens Olson & Bear, Suite 1150, 201 California Street, San Francisco, CA, 94111

CLMN Number of Claims: 57

ECL Exemplary Claim: 1

DRWN 237 Drawing Page(s)

LN.CNT 21080

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention is directed to novel polypeptides and to nucleic

acid molecules encoding those polypeptides. Also provided herein are vectors and host cells comprising those nucleic acid sequences, chimeric polypeptide molecules comprising the polypeptides of the present invention fused to heterologous polypeptide sequences, antibodies which bind to the polypeptides of the present invention and to methods for producing the polypeptides of the present invention.

L19 ANSWER 47 OF 87 USPATFULL
AN 2003:108972 USPATFULL
TI Nucleic acid and amino acid sequences relating to pseudomonas ***aeruginosa*** for diagnostics and therapeutics
IN Rubenfield, Marc J., Framingham, MA, United States
Nolling, Jork, Quincy, MA, United States
Deloughery, Craig, Medford, MA, United States
Bush, David, Somerville, MA, United States
PA Genome Therapeutics Corporation, Waltham, MA, United States (U.S. corporation)
PI US 6551795 B1 20030422
AI US 1999-252991 19990218 (9)
PRAI US 1998-74788P 19980218 (60)
US 1998-94190P 19980727 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Allen, Marianne P.
LREP Burns, Doane, Swecker & Mathis, L.L.P.
CLMN Number of Claims: 26
ECL Exemplary Claim: 1
DRWN 0 Drawing Figure(s); 0 Drawing Page(s)
LN.CNT 21431
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention provides isolated polypeptide and nucleic acid sequences derived from Pseudomonas ***aeruginosa*** that are useful in diagnosis and therapy of pathological conditions; antibodies against the polypeptides; and methods for the production of the polypeptides. The invention also provides methods for the detection, prevention and treatment of pathological conditions resulting from bacterial infection.

L19 ANSWER 48 OF 87 USPATFULL
AN 2003:106712 USPATFULL
TI Secreted and transmembrane polypeptides and nucleic acids encoding the same
IN Ashkenazi, Avi J., San Mateo, CA, UNITED STATES
Baker, Kevin P., Darnestown, MD, UNITED STATES
Botstein, David, Belmont, CA, UNITED STATES
Desnoyers, Luc, San Francisco, CA, UNITED STATES
Eaton, Dan L., San Rafael, CA, UNITED STATES
Ferrara, Napoleone, San Francisco, CA, UNITED STATES
Filvaroff, Ellen, San Francisco, CA, UNITED STATES
Fong, Sherman, Alameda, CA, UNITED STATES
Gao, Wei-Qiang, Palo Alto, CA, UNITED STATES
Gerber, Hanspeter, San Francisco, CA, UNITED STATES
Gerritsen, Mary E., San Mateo, CA, UNITED STATES
Goddard, Audrey, San Francisco, CA, UNITED STATES
Godowski, Paul J., Burlingame, CA, UNITED STATES
Grimaldi, J. Christopher, San Francisco, CA, UNITED STATES

Gurney, Austin L., Belmont, CA, UNITED STATES
Hillan, Kenneth J., San Francisco, CA, UNITED STATES
Kljavin, Ivar J., Lafayette, CA, UNITED STATES
Kuo, Sophia S., San Francisco, CA, UNITED STATES
Napier, Mary A., Hillsborough, CA, UNITED STATES
Pan, James, Belmont, CA, UNITED STATES
Paoni, Nicholas F., Belmont, CA, UNITED STATES
Roy, Margaret Ann, San Francisco, CA, UNITED STATES
Shelton, David L., Oakland, CA, UNITED STATES
Stewart, Timothy A., San Francisco, CA, UNITED STATES
Tumas, Daniel, Orinda, CA, UNITED STATES
Williams, P. Mickey, Half Moon Bay, CA, UNITED STATES
Wood, William I., Hillsborough, CA, UNITED STATES
PA Genentech, Inc. (U.S. corporation)
PI US 2003073624 A1 20030417
AI US 2001-978193 A1 20011015 (9)
RLI Continuation of Ser. No. US 1998-40220, filed on 17 Mar 1998, GRANTED, Pat. No. US 6391311 Continuation of Ser. No. US 1998-105413, filed on 26 Jun 1998, ABANDONED Continuation of Ser. No. US 1998-168978, filed on 7 Oct 1998, ABANDONED Continuation of Ser. No. US 1998-184216, filed on 2 Nov 1998, ABANDONED Continuation of Ser. No. US 1998-187368, filed on 6 Nov 1998, PENDING Continuation of Ser. No. US 1998-202054, filed on 7 Dec 1998, PENDING Continuation of Ser. No. US 1998-218517, filed on 22 Dec 1998, ABANDONED Continuation of Ser. No. US 1999-254465, filed on 5 Mar 1999, GRANTED, Pat. No. US 6410708 Continuation of Ser. No. US 1999-265686, filed on 10 Mar 1999, GRANTED, Pat. No. US 6455283 Continuation of Ser. No. US 1999-267213, filed on 12 Mar 1999, ABANDONED Continuation of Ser. No. US 1999-284291, filed on 12 Apr 1999, ABANDONED Continuation of Ser. No. US 1999-311832, filed on 14 May 1999, PENDING Continuation of Ser. No. US 380137, PENDING Continuation of Ser. No. US 1999-380138, filed on 25 Aug 1999, ABANDONED Continuation of Ser. No. US 1999-380142, filed on 25 Aug 1999, ABANDONED Continuation of Ser. No. US 2000-709238, filed on 8 Nov 2000, ABANDONED Continuation of Ser. No. US 2000-723749, filed on 27 Nov 2000, PENDING Continuation of Ser. No. US 2000-747259, filed on 20 Dec 2000, PENDING Continuation of Ser. No. US 2001-816744, filed on 22 Mar 2001, PENDING Continuation of Ser. No. US 2001-816920, filed on 22 Mar 2001, PENDING Continuation of Ser. No. US 2001-854280, filed on 10 May 2001, PENDING Continuation of Ser. No. US 2001-854208, filed on 10 May 2001, PENDING Continuation of Ser. No. US 2001-872035, filed on 1 Jun 2001, ABANDONED Continuation of Ser. No. US 2001-874503, filed on 5 Jun 2001, PENDING Continuation of Ser. No. US 2001-882636, filed on 14 Jun 2001, ABANDONED Continuation of Ser. No. US 2001-886342, filed on 19 Jun 2001, ABANDONED Continuation of Ser. No. US 2001-918585, filed on 30 Jul 2001, PENDING
PRAI WO 1998-US21141 19981007
DT Utility
FS APPLICATION
LREP Ginger R. Dreger, Esq., Knobbe Martens Olson & Bear, Suite 1150, 201 California Street, San Francisco, CA, 94111
CLMN Number of Claims: 57
ECL Exemplary Claim: 1
DRWN 237 Drawing Page(s)
LN.CNT 21352
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is directed to novel polypeptides and to nucleic

acid molecules encoding those polypeptides. Also provided herein are vectors and host cells comprising those nucleic acid sequences, chimeric polypeptide molecules comprising the polypeptides of the present invention fused to heterologous polypeptide sequences, antibodies which bind to the polypeptides of the present invention and to methods for producing the polypeptides of the present invention.

L19 ANSWER 49 OF 87 USPATFULL
AN 2003:106220 USPATFULL
TI Secreted and transmembrane polypeptides and nucleic acids encoding the same
IN Ashkenazi, Avi J., San Mateo, CA, UNITED STATES
Baker, Kevin P., Darnestown, MD, UNITED STATES
Botstein, David, Belmont, CA, UNITED STATES
Desnoyers, Luc, San Francisco, CA, UNITED STATES
Eaton, Dan L., San Rafael, CA, UNITED STATES
Ferrara, Napoleone, San Francisco, CA, UNITED STATES
Filvaroff, Ellen, San Francisco, CA, UNITED STATES
Fong, Sherman, Alameda, CA, UNITED STATES
Gao, Wei-Qiang, Palo Alto, CA, UNITED STATES
Gerber, Hanspeter, San Francisco, CA, UNITED STATES
Gerritsen, Mary E., San Mateo, CA, UNITED STATES
Goddard, Audrey, San Francisco, CA, UNITED STATES
Godowski, Paul J., Burlingame, CA, UNITED STATES
Grimaldi, J. Christopher, San Francisco, CA, UNITED STATES
Gurney, Austin L., Belmont, CA, UNITED STATES
Hillan, Kenneth J., San Francisco, CA, UNITED STATES
Kljavin, Ivar J., Lafayette, CA, UNITED STATES
Kuo, Sophia S., San Francisco, CA, UNITED STATES
Napier, Mary A., Hillsborough, CA, UNITED STATES
Pan, James, Belmont, CA, UNITED STATES
Paoni, Nicholas F., Belmont, CA, UNITED STATES
Roy, Margaret Ann, San Francisco, CA, UNITED STATES
Shelton, David L., Oakland, CA, UNITED STATES
Stewart, Timothy A., San Francisco, CA, UNITED STATES
Tumas, Daniel, Orinda, CA, UNITED STATES
Williams, P. Mickey, Half Moon Bay, CA, UNITED STATES
Wood, William I., Hillsborough, CA, UNITED STATES
PA Genentech, Inc. (U.S. corporation)
PI US 2003073131 A1 20030417
AI US 2001-16177 A1 20011025 (10)
RLI Continuation of Ser. No. US 2001-918585, filed on 30 Jul 2001, PENDING
PRAI WO 1998-US21141 19981007
DT Utility
FS APPLICATION
LREP Ginger R. Dreger, Knobbe Martens Olson & Bear, Sixteenth Floor, 620 Newport Center Drive, Newport Beach, CA, 92660
CLMN Number of Claims: 57
ECL Exemplary Claim: 1
DRWN 237 Drawing Page(s)
LN.CNT 21117
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is directed to novel polypeptides and to nucleic acid molecules encoding those polypeptides. Also provided herein are vectors and host cells comprising those nucleic acid sequences, chimeric

polypeptide molecules comprising the polypeptides of the present invention fused to heterologous polypeptide sequences, antibodies which bind to the polypeptides of the present invention and to methods for producing the polypeptides of the present invention.

L19 ANSWER 50 OF 87 USPATFULL
AN 2003:105834 USPATFULL
TI Secreted and transmembrane polypeptides and nucleic acids encoding the same
IN Ashkenazi, Avi, San Mateo, CA, UNITED STATES
Baker, Kevin P., Darnestown, MD, UNITED STATES
Botstein, David, Belmont, CA, UNITED STATES
Desnoyers, Luc, San Francisco, CA, UNITED STATES
Eaton, Dan L., San Rafael, CA, UNITED STATES
Ferrara, Napoleone, San Francisco, CA, UNITED STATES
Filvaroff, Ellen, San Francisco, CA, UNITED STATES
Fong, Sherman, Alameda, CA, UNITED STATES
Gao, Wei-Qiang, Palo Alto, CA, UNITED STATES
Gerber, Hanspeter, San Francisco, CA, UNITED STATES
Gerritsen, Mary E., San Mateo, CA, UNITED STATES
Goddard, Audrey, San Francisco, CA, UNITED STATES
Godowski, Paul J., Burlingame, CA, UNITED STATES
Grimaldi, J. Christopher, San Francisco, CA, UNITED STATES
Gurney, Austin L., Belmont, CA, UNITED STATES
Hillan, Kenneth J., San Francisco, CA, UNITED STATES
Kljavin, Ivar J., Lafayette, CA, UNITED STATES
Kuo, Sophia S., San Francisco, CA, UNITED STATES
Napier, Mary A., Hillsborough, CA, UNITED STATES
Pan, James, Belmont, CA, UNITED STATES
Paoni, Nicholas F., Belmont, CA, UNITED STATES
Roy, Margaret Ann, San Francisco, CA, UNITED STATES
Shelton, David L., Oakland, CA, UNITED STATES
Stewart, Timothy A., San Francisco, CA, UNITED STATES
Tumas, Daniel, Orinda, CA, UNITED STATES
Williams, P. Mickey, Half Moon Bay, CA, UNITED STATES
Wood, William I., Hillsborough, CA, UNITED STATES
PA Genentech, Inc. (U.S. corporation)
PI US 2003072745 A1 20030417
AI US 2001-13929 A1 20011025 (10)
RLI Continuation of Ser. No. US 2001-918585, filed on 30 Jul 2001, PENDING
PRAI WO 1998-US21141 19981007
DT Utility
FS APPLICATION
LREP Ginger R. Dreger, Knobbe Martens Olson & Bear, Sixteenth Floor, 620 Newport Center Drive, Newport Beach, CA, 92660
CLMN Number of Claims: 57
ECL Exemplary Claim: 1
DRWN 237 Drawing Page(s)
LN.CNT 21768
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is directed to novel polypeptides and to nucleic acid molecules encoding those polypeptides. Also provided herein are vectors and host cells comprising those nucleic acid sequences, chimeric polypeptide molecules comprising the polypeptides of the present invention fused to heterologous polypeptide sequences, antibodies which

bind to the polypeptides of the present invention and to methods for producing the polypeptides of the present invention.

L19 ANSWER 51 OF 87 USPATFULL
AN 2003:100068 USPATFULL
TI Secreted and transmembrane polypeptides and nucleic acids encoding the same
IN Ashkenazi, Avi J., San Mateo, CA, UNITED STATES
Baker, Kevin P., Darnestown, MD, UNITED STATES
Botstein, David, Belmont, CA, UNITED STATES
Desnoyers, Luc, San Francisco, CA, UNITED STATES
Eaton, Dan L., San Rafael, CA, UNITED STATES
Ferrara, Napoleone, San Francisco, CA, UNITED STATES
Filvaroff, Ellen, San Francisco, CA, UNITED STATES
Fong, Sherman, Alameda, CA, UNITED STATES
Gao, Wei-Qiang, Palo Alto, CA, UNITED STATES
Gerber, Hanspeter, San Francisco, CA, UNITED STATES
Gerritsen, Mary E., San Mateo, CA, UNITED STATES
Goddard, Audrey, San Francisco, CA, UNITED STATES
Godowski, Paul J., Burlingame, CA, UNITED STATES
Grimaldi, J. Christopher, San Francisco, CA, UNITED STATES
Gurney, Austin L., Belmont, CA, UNITED STATES
Hillan, Kenneth J., San Francisco, CA, UNITED STATES
Kljavin, Ivar J., Lafayette, CA, UNITED STATES
Kuo, Sophia S., San Francisco, CA, UNITED STATES
Napier, Mary A., Hillsborough, CA, UNITED STATES
Pan, James, Belmont, CA, UNITED STATES
Paoni, Nicholas F., Belmont, CA, UNITED STATES
Roy, Margaret Ann, San Francisco, CA, UNITED STATES
Shelton, David L., Oakland, CA, UNITED STATES
Stewart, Timothy A., San Francisco, CA, UNITED STATES
Tumas, Daniel, Orinda, CA, UNITED STATES
Williams, P. Mickey, Half Moon Bay, CA, UNITED STATES
Wood, William I., Hillsborough, CA, UNITED STATES
PA Genentech, Inc. (U.S. corporation)
PI US 2003069178 A1 20030410
AI US 2001-978423 A1 20011016 (9)
RLI Continuation of Ser. No. US 2001-918585, filed on 30 Jul 2001, PENDING
PRAI WO 1998-US21141 19981007
DT Utility
FS APPLICATION
LREP KNOBBE, MARTENS, OLSON & BEAR, LLP, 2040 MAIN STREET, FOURTEENTH FLOOR, IRVINE, CA, 92614
CLMN Number of Claims: 57
ECL Exemplary Claim: 1
DRWN 237 Drawing Page(s)
LN.CNT 21166
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is directed to novel polypeptides and to nucleic acid molecules encoding those polypeptides. Also provided herein are vectors and host cells comprising those nucleic acid sequences, chimeric polypeptide molecules comprising the polypeptides of the present invention fused to heterologous polypeptide sequences, antibodies which bind to the polypeptides of the present invention and to methods for producing the polypeptides of the present invention.

L19 ANSWER 52 OF 87 USPATFULL
AN 2003:99543 USPATFULL
TI Secreted and transmembrane polypeptides and nucleic acids encoding the same
IN Ashkenazi, Avi J., San Mateo, CA, UNITED STATES
Baker, Kevin P., Darnestown, MD, UNITED STATES
Botstein, David, Belmont, CA, UNITED STATES
Desnoyers, Luc, San Francisco, CA, UNITED STATES
Eaton, Dan L., San Rafael, CA, UNITED STATES
Ferrara, Napoleone, San Francisco, CA, UNITED STATES
Filvaroff, Ellen, San Francisco, CA, UNITED STATES
Fong, Sherman, Alameda, CA, UNITED STATES
Gao, Wei-Qiang, Palo Alto, CA, UNITED STATES
Gerber, Hanspeter, San Francisco, CA, UNITED STATES
Gerritsen, Mary E., San Mateo, CA, UNITED STATES
Goddard, Audrey, San Francisco, CA, UNITED STATES
Godowski, Paul J., Burlingame, CA, UNITED STATES
Grimaldi, J. Christopher, San Francisco, CA, UNITED STATES
Gurney, Austin L., Belmont, CA, UNITED STATES
Hillan, Kenneth J., San Francisco, CA, UNITED STATES
Kljavin, Ivar J., Lafayette, CA, UNITED STATES
Kuo, Sophia S., San Francisco, CA, UNITED STATES
Napier, Mary A., Hillsborough, CA, UNITED STATES
Pan, James, Belmont, CA, UNITED STATES
Paoni, Nicholas F., Belmont, CA, UNITED STATES
Roy, Margaret Ann, San Francisco, CA, UNITED STATES
Shelton, David L., Oakland, CA, UNITED STATES
Stewart, Timothy A., San Francisco, CA, UNITED STATES
Tumas, Daniel, Orinda, CA, UNITED STATES
Williams, P. Mickey, Half Moon Bay, CA, UNITED STATES
Wood, William I., Hillsborough, CA, UNITED STATES
PA Genentech, Inc. (U.S. corporation)
PI US 2003068648 A1 20030410
AI US 2001-13921 A1 20011025 (10)
RLI Continuation of Ser. No. US 2001-918585, filed on 30 Jul 2001, PENDING
PRAI WO 1998-US21141 19981007
DT Utility
FS APPLICATION
LREP KNOBBE, MARTENS, OLSON & BEAR, LLP, WO, 2040 MAIN STREET, FOURTEENTH FLOOR, IRVINE, CA, 92614
CLMN Number of Claims: 57
ECL Exemplary Claim: 1
DRWN 237 Drawing Page(s)
LN.CNT 21740
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is directed to novel polypeptides and to nucleic acid molecules encoding those polypeptides. Also provided herein are vectors and host cells comprising those nucleic acid sequences, chimeric polypeptide molecules comprising the polypeptides of the present invention fused to heterologous polypeptide sequences, antibodies which bind to the polypeptides of the present invention and to methods for producing the polypeptides of the present invention.

L19 ANSWER 53 OF 87 USPATFULL

AN 2003:93048 USPATFULL
TI Secreted and transmembrane polypeptides and nucleic acids encoding the same
IN Ashkenazi, Avi J., San Mateo, CA, UNITED STATES
Baker, Kevin P., Darnestown, MD, UNITED STATES
Botstein, David, Belmont, CA, UNITED STATES
Desnoyers, Luc, San Francisco, CA, UNITED STATES
Eaton, Dan L., San Rafael, CA, UNITED STATES
Ferrara, Napoleone, San Francisco, CA, UNITED STATES
Filvaroff, Ellen, San Francisco, CA, UNITED STATES
Fong, Sherman, Alameda, CA, UNITED STATES
Gao, Wei-Qiang, Palo Alto, CA, UNITED STATES
Gerber, Hanspeter, San Francisco, CA, UNITED STATES
Gerritsen, Mary E., San Mateo, CA, UNITED STATES
Goddard, Audrey, San Francisco, CA, UNITED STATES
Godowski, Paul J., Burlingame, CA, UNITED STATES
Grimaldi, J. Christopher, San Francisco, CA, UNITED STATES
Gurney, Austin L., Belmont, CA, UNITED STATES
Hillan, Kenneth J., San Francisco, CA, UNITED STATES
Kljavin, Ivar J., Lafayette, CA, UNITED STATES
Kuo, Sophia S., San Francisco, CA, UNITED STATES
Napier, Mary A., Hillsborough, CA, UNITED STATES
Pan, James, Belmont, CA, UNITED STATES
Paoni, Nicholas F., Belmont, CA, UNITED STATES
Roy, Margaret Ann, San Francisco, CA, UNITED STATES
Shelton, David L., Oakland, CA, UNITED STATES
Stewart, Timothy A., San Francisco, CA, UNITED STATES
Tumas, Daniel, Orinda, CA, UNITED STATES
Williams, P. Mickey, Half Moon Bay, CA, UNITED STATES
Wood, William I., Hillsborough, CA, UNITED STATES
PA Genentech, Inc. (U.S. corporation)
PI US 2003064407 A1 20030403
AI US 2001-999834 A1 20011024 (9)
RLI Continuation of Ser. No. US 1998-40220, filed on 17 Mar 1998, GRANTED, Pat. No. US 6391311 Continuation of Ser. No. US 1998-105413, filed on 26 Jun 1998, ABANDONED Continuation of Ser. No. US 1998-168978, filed on 7 Oct 1998, ABANDONED Continuation of Ser. No. US 1998-184216, filed on 2 Nov 1998, ABANDONED Continuation of Ser. No. US 1998-187368, filed on 6 Nov 1998, PENDING Continuation of Ser. No. US 1998-202054, filed on 7 Dec 1998, PENDING Continuation of Ser. No. US 1998-218517, filed on 22 Dec 1998, ABANDONED Continuation of Ser. No. US 1999-254465, filed on 5 Mar 1999, GRANTED, Pat. No. US 6410708 Continuation of Ser. No. US 1999-265686, filed on 10 Mar 1999, GRANTED, Pat. No. US 6455283 Continuation of Ser. No. US 1999-267213, filed on 12 Mar 1999, ABANDONED Continuation of Ser. No. US 1999-284291, filed on 12 Apr 1999, ABANDONED Continuation of Ser. No. US 1999-311832, filed on 14 May 1999, PENDING Continuation of Ser. No. US 380137, PENDING Continuation of Ser. No. US 1999-380142, filed on 25 Aug 1999, ABANDONED Continuation of Ser. No. US 2000-709238, filed on 8 Nov 2000, ABANDONED Continuation of Ser. No. US 2000-723749, filed on 27 Nov 2000, PENDING Continuation of Ser. No. US 2000-747259, filed on 20 Dec 2000, PENDING Continuation of Ser. No. US 2001-816744, filed on 22 Mar 2001, PENDING Continuation of Ser. No. US 2001-816920, filed on 22 Mar 2001, PENDING Continuation of Ser. No. US 2001-854280, filed on 10 May 2001, PENDING Continuation of Ser. No. US 2001-854208, filed on 10 May 2001, PENDING Continuation of Ser. No. US

2001-872035, filed on 1 Jun 2001, ABANDONED Continuation of Ser. No. US
2001-874503, filed on 5 Jun 2001, PENDING Continuation of Ser. No. US
2001-882636, filed on 14 Jun 2001, ABANDONED Continuation of Ser. No. US
2001-886342, filed on 19 Jun 2001, ABANDONED Continuation of Ser. No. US
2001-918585, filed on 30 Jul 2001, PENDING
PRAI WO 1998-US21141 19981007
DT Utility
FS APPLICATION
LREP Ginger R. Dreger, Esq., Knobbe Martens Olson & Bear, 201 California Street, Suite 1150, San Francisco, CA, 94111
CLMN Number of Claims: 57
ECL Exemplary Claim: 1
DRWN 237 Drawing Page(s)
LN.CNT 21606
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is directed to novel polypeptides and to nucleic acid molecules encoding those polypeptides. Also provided herein are vectors and host cells comprising those nucleic acid sequences, chimeric polypeptide molecules comprising the polypeptides of the present invention fused to heterologous polypeptide sequences, antibodies which bind to the polypeptides of the present invention and to methods for producing the polypeptides of the present invention.

L19 ANSWER 54 OF 87 USPATFULL
AN 2003:86798 USPATFULL
TI Secreted and transmembrane polypeptides and nucleic acids encoding the same
IN Ashkenazi, Avi J., San Mateo, CA, UNITED STATES
Baker, Kevin P., Darnestown, MD, UNITED STATES
Botstein, David, Belmont, CA, UNITED STATES
Desnoyers, Luc, San Francisco, CA, UNITED STATES
Eaton, Dan L., San Rafael, CA, UNITED STATES
Ferrara, Napoleone, San Francisco, CA, UNITED STATES
Filvaroff, Ellen, San Francisco, CA, UNITED STATES
Fong, Sherman, Alameda, CA, UNITED STATES
Gao, Wei-Qiang, Palo Alto, CA, UNITED STATES
Gerber, Hanspeter, San Francisco, CA, UNITED STATES
Gerritsen, Mary E., San Mateo, CA, UNITED STATES
Goddard, Audrey, San Francisco, CA, UNITED STATES
Godowski, Paul J., Burlingame, CA, UNITED STATES
Grimaldi, J. Christopher, San Francisco, CA, UNITED STATES
Gurney, Austin L., Belmont, CA, UNITED STATES
Hillan, Kenneth J., San Francisco, CA, UNITED STATES
Kljavin, Ivar J., Lafayette, CA, UNITED STATES
Kuo, Sophia S., San Francisco, CA, UNITED STATES
Napier, Mary A., Hillsborough, CA, UNITED STATES
Pan, James, Belmont, CA, UNITED STATES
Paoni, Nicholas F., Belmont, CA, UNITED STATES
Roy, Margaret Ann, San Francisco, CA, UNITED STATES
Shelton, David L., Oakland, CA, UNITED STATES
Stewart, Timothy A., San Francisco, CA, UNITED STATES
Tumas, Daniel, Orinda, CA, UNITED STATES
Williams, P. Mickey, Half Moon Bay, CA, UNITED STATES
Wood, William I., Hillsborough, CA, UNITED STATES
PA GENENTECH, INC. (U.S. corporation)

PI US 2003060406 A1 20030327
AI US 2001-918585 A1 20010730 (9)
RLI Continuation of Ser. No. US 1998-40220, filed on 17 Mar 1998, PENDING
Continuation of Ser. No US 1998-105413, filed on 26 Jun 1998, PENDING
Continuation of Ser. No US 1998-168978, filed on 7 Oct 1998, PENDING
Continuation of Ser. No. US 1998-184216, filed on 2 Nov 1998, ABANDONED
Continuation of Ser. No. US 1998-187368, filed on 6 Nov 1998, PENDING
Continuation of Ser. No US 1998-202054, filed on 7 Dec 1998, PENDING
Continuation of Ser. No US 1998-218517, filed on 22 Dec 1998, ABANDONED
Continuation of Ser. No. US 1999-254465, filed on 5 Mar 1999, PENDING
Continuation of Ser. No. US 1999-265686, filed on 10 Mar 1999, PENDING
Continuation of Ser. No. US 1999-267213, filed on 12 Mar 1999, ABANDONED
Continuation of Ser. No. US 1999-284291, filed on 12 Apr 1999, ABANDONED
Continuation of Ser. No. US 1999-311832, filed on 14 May 1999, PENDING
Continuation of Ser. No. US 380137, PENDING Continuation of Ser. No. US
1999-380138, filed on 25 Aug 1999, PENDING Continuation of Ser. No. US
1999-380142, filed on 25 Aug 1999, ABANDONED Continuation of Ser. No. US
2000-709238, filed on 8 Nov 2000, PENDING Continuation of Ser. No. US
2000-723749, filed on 27 Nov 2000, PENDING Continuation of Ser. No. US
2000-747259, filed on 20 Dec 2000, PENDING Continuation of Ser. No. US
2001-816744, filed on 22 Mar 2001, PENDING Continuation of Ser. No. US
2001-816920, filed on 22 Mar 2001, PENDING Continuation of Ser. No. US
2001-854280, filed on 10 May 2001, PENDING Continuation of Ser. No. US
2001-854208, filed on 10 May 2001, PENDING Continuation of Ser. No. US
2001-872035, filed on 1 Jun 2001, PENDING Continuation of Ser. No. US
2001-874503, filed on 5 Jun 2001, PENDING Continuation of Ser. No. US
2001-882636, filed on 14 Jun 2001, PENDING Continuation of Ser. No. US
2001-886342, filed on 19 Jun 2001, PENDING
PRAI WO 1998-US21141 19981007
DT Utility
FS APPLICATION
LREP GENENTECH, INC., 1 DNA WAY, SOUTH SAN FRANCISCO, CA, 94080
CLMN Number of Claims 57
ECL Exemplary Claim: 1
DRWN 237 Drawing Page(s)
LN.CNT 21248
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is directed to novel polypeptides and to nucleic acid molecules encoding those polypeptide. Also provided herein are vectors and host cells comprisig those nucleic acid sequence, chimeric polypeptide molecules comprising the polypeptides of the present invention fused to heterologous polypeptide sequences, antibodies which bind to the polypeptides of the present invention and to methods for producing the polypeptide of the present invention.

L19 ANSWER 55 OF 87 USPATFULL
AN 2003:79288 USPATFULL
TI Secreted and transmembrane polypeptides and nucleic acids encoding the same
IN Ashkenazi, Avi J., San Mateo, CA, UNITED STATES
Baker, Kevin P., Darnestown, MD, UNITED STATES
Botstein, David, Belmont, CA, UNITED STATES
Desnoyers, Luc, San Francisco, CA, UNITED STATES
Eaton, Dan L., San Rafael, CA, UNITED STATES
Ferrara, Napoleone, San Francisco, CA, UNITED STATES

Filvaroff, Ellen, San Francisco, CA, UNITED STATES
Fong, Sherman, Alameda, CA, UNITED STATES
Gao, Wei-Qiang, Palo Alto, CA, UNITED STATES
Gerber, Hanspeter, San Francisco, CA, UNITED STATES
Gerritsen, Mary E., San Mateo, CA, UNITED STATES
Goddard, Audrey, San Francisco, CA, UNITED STATES
Godowski, Paul J., Burlingame, CA, UNITED STATES
Grimaldi, J. Christopher, San Francisco, CA, UNITED STATES
Gurney, Austin L., Belmont, CA, UNITED STATES
Hillan, Kenneth J., San Francisco, CA, UNITED STATES
Kljavin, Ivar J., Lafayette, CA, UNITED STATES
Kuo, Sophia S., San Francisco, CA, UNITED STATES
Napier, Mary A., Hillsborough, CA, UNITED STATES
Pan, James, Belmont, CA, UNITED STATES
Paoni, Nicholas F., Belmont, CA, UNITED STATES
Roy, Margaret Ann, San Francisco, CA, UNITED STATES
Shelton, David L., Oakland, CA, UNITED STATES
Stewart, Timothy A., San Francisco, CA, UNITED STATES
Tumas, Daniel, Orinda, CA, UNITED STATES
Williams, P. Mickey, Half Moon Bay, CA, UNITED STATES
Wood, William I., Hillsborough, CA, UNITED STATES

PA Genentech, Inc. (U.S. corporation)
PI US 2003055216 A1 20030320
AI US 2001-978824 A1 20011017 (9)
RLI Continuation of Ser. No. US 1998-40220, filed on 17 Mar 1998, GRANTED, Pat. No. US 6391311 Continuation of Ser. No. US 1998-105413, filed on 26 Jun 1998, ABANDONED Continuation of Ser. No. US 1998-168978, filed on 7 Oct 1998, ABANDONED Continuation of Ser. No. US 1998-184216, filed on 2 Nov 1998, ABANDONED Continuation of Ser. No. US 1998-187368, filed on 6 Nov 1998, PENDING Continuation of Ser. No. US 1998-202054, filed on 7 Dec 1998, PENDING Continuation of Ser. No. US 1998-218517, filed on 22 Dec 1998, ABANDONED Continuation of Ser. No. US 1999-254465, filed on 5 Mar 1999, GRANTED, Pat. No. US 6410708 Continuation of Ser. No. US 1999-265686, filed on 10 Mar 1999, GRANTED, Pat. No. US 6455283 Continuation of Ser. No. US 1999-267213, filed on 12 Mar 1999, ABANDONED Continuation of Ser. No. US 1999-284291, filed on 12 Apr 1999, ABANDONED Continuation of Ser. No. US 1999-311832, filed on 14 May 1999, PENDING Continuation of Ser. No. US 380137, PENDING Continuation of Ser. No. US 1999-380138, filed on 25 Aug 1999, ABANDONED Continuation of Ser. No. US 1999-380142, filed on 25 Aug 1999, ABANDONED Continuation of Ser. No. US 2000-709238, filed on 8 Nov 2000, ABANDONED Continuation of Ser. No. US 2000-723749, filed on 27 Nov 2000, PENDING Continuation of Ser. No. US 2000-747259, filed on 20 Dec 2000, PENDING Continuation of Ser. No. US 2001-816744, filed on 22 Mar 2001, PENDING Continuation of Ser. No. US 2001-816920, filed on 22 Mar 2001, PENDING Continuation of Ser. No. US 2001-854280, filed on 10 May 2001, PENDING Continuation of Ser. No. US 2001-854208, filed on 10 May 2001, PENDING Continuation of Ser. No. US 2001-872035, filed on 1 Jun 2001, ABANDONED Continuation of Ser. No. US 2001-874503, filed on 5 Jun 2001, PENDING Continuation of Ser. No. US 2001-882636, filed on 14 Jun 2001, ABANDONED Continuation of Ser. No. US 2001-886342, filed on 19 Jun 2001, ABANDONED Continuation of Ser. No. US 2001-918585, filed on 30 Jul 2001, PENDING
PRAI WO 1998-US21141 19981007
DT Utility
FS APPLICATION

LREP Ginger R. Dreger, Esq., Knobbe Martens Olson & Bear, 201 California Street, Suite 1150, San Francisco, CA, 94111
CLMN Number of Claims: 57
ECL Exemplary Claim: 1
DRWN 237 Drawing Page(s)
LN.CNT 21577
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is directed to novel polypeptides and to nucleic acid molecules encoding those polypeptides. Also provided herein are vectors and host cells comprising those nucleic acid sequences, chimeric polypeptide molecules comprising the polypeptides of the present invention fused to heterologous polypeptide sequences, antibodies which bind to the polypeptides of the present invention and to methods for producing the polypeptides of the present invention.

L19 ANSWER 56 OF 87 USPATFULL
AN 2003:78602 USPATFULL
TI Genomic sequence of NGR234 symbiotic plasmid, its gene map, and its use in diagnostics and gene transfer in agriculture
IN Rosenthal, Andre, Berlin, GERMANY, FEDERAL REPUBLIC OF
Freiberg, Christoph Bernward, Wuppertal, GERMANY, FEDERAL REPUBLIC OF
Perret, Xavier Philippe, Geneva, SWITZERLAND
Broughton, William John, Geneva, SWITZERLAND
PI US 2003054522 A1 20030320
AI US 2001-939964 A1 20010827 (9)
RLI Continuation of Ser. No. US 1999-214808, filed on 22 Jun 1999, PENDING
PRAI EP 1996-730001 19960712
GB 1997-10395 19970520
DT Utility
FS APPLICATION
LREP Woodcock Washburn Kurtz, Mackiewicz & Norris LLP, 46th Floor, One Liberty Place, Philadelphia, PA, 19103
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN 148 Drawing Page(s)
LN.CNT 3786
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The sequencing and analysis of the complete nucleotide sequence of symbiotic plasmid pNGR234a isolated from Rhizobium sp. NGR234. The complete sequence of pNGR234a is presented. The analysis includes the identification of a number of novel ORFs and the proteins expressible therefrom which have been ascribed putative functions.

L19 ANSWER 57 OF 87 USPATFULL
AN 2003:78592 USPATFULL
TI ***AUTOINDUCER*** SYNTHASE MODULATING COMPOUNDS AND USES THEREFORE
IN CRONAN, JOHN E., JR., URBANA, IL, UNITED STATES
PLAPP, BRYCE V., IOWA CITY, IA, UNITED STATES
GREENBERG, E. PETER, IOWA CITY, IA, UNITED STATES
PARSEK, MATTHEW R., IOWA CITY, IA, UNITED STATES
PA LAHIVE AND COCKFIELD (U.S. corporation)
PI US 2003054512 A1 20030320
AI US 1999-227488 A1 19990106 (9)
PRAI US 1998-94988P 19980731 (60)
DT Utility

FS APPLICATION
LREP LAHIVE & COCKFIELD, 28 STATE STREET, BOSTON, MA, 02109
CLMN Number of Claims: 38
ECL Exemplary Claim: 1
DRWN 1 Drawing Page(s)
LN.CNT 1421
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Provided are compositions and methods useful for modulating the activity of ***autoinducer*** synthase catalysts. A method for identifing modulators of the ***autoinducer*** synthesis reaction is also provided. Such modulators are useful for controlling bacterial growth and can be used for therapeutic treatment of bacterial infections particularly in immunocompromised subjects. They are also useful in treating disease states associated with ***autoinducer*** synthesis and biofilm development.

L19 ANSWER 58 OF 87 USPATFULL
AN 2003:78519 USPATFULL
TI Truncated soluble tumor necrosis factor type-I and type-II receptors
IN Fisher, Eric F., New Braunfels, TX, UNITED STATES
Edwards, Carl K., III, Superior, CO, UNITED STATES
Kieft, Gary L., Boulder, CO, UNITED STATES
PA Amgen Inc. (U.S. corporation)
PI US 2003054439 A1 20030320
AI US 2001-882735 A1 20010615 (9)
RLI Continuation of Ser. No. US 1999-214613, filed on 8 Jan 1999, ABANDONED
A 371 of International Ser. No. WO 1997-US12244, filed on 9 Jul 1997,
UNKNOWN
PRAI US 1997-39792P 19970304 (60)
US 1997-39314P 19970207 (60)
US 1997-37737P 19970123 (60)
US 1996-32534P 19961206 (60)
US 1996-21443P 19960709 (60)
DT Utility
FS APPLICATION
LREP AMGEN INCORPORATED, MAIL STOP 27-4-A, ONE AMGEN CENTER DRIVE, THOUSAND OAKS, CA, 91320-1799
CLMN Number of Claims: 31
ECL Exemplary Claim: 1
DRWN 13 Drawing Page(s)
LN.CNT 4745
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Disclosed are novel proteins, referred to as tumor necrosis factor binding proteins, that modulate the activity of tumor necrosis factor. Also disclosed are processes for obtaining the tumor necrosis binding proteins by recombinant genetic engineering techniques.

L19 ANSWER 59 OF 87 USPATFULL
AN 2003:78485 USPATFULL
TI Secreted and transmembrane polypeptides and nucleic acids encoding the same
IN Ashkenazi, Avi, San Mateo, CA, UNITED STATES
Baker, Kevin P., Darnestown, MD, UNITED STATES
Botstein, David, Belmont, CA, UNITED STATES
Desnoyers, Luc, San Francisco, CA, UNITED STATES

Eaton, Dan L., San Rafael, CA, UNITED STATES
Ferrara, Napoleone, San Francisco, CA, UNITED STATES
Filvaroff, Ellen, San Francisco, CA, UNITED STATES
Fong, Sherman, Alameda, CA, UNITED STATES
Gao, Wei-Qiang, Palo Alto, CA, UNITED STATES
Gerber, Hanspeter, San Francisco, CA, UNITED STATES
Gerritsen, Mary E., San Mateo, CA, UNITED STATES
Goddard, Audrey, San Francisco, CA, UNITED STATES
Godowski, Paul J., Burlingame, CA, UNITED STATES
Grimaldi, J. Christopher, San Francisco, CA, UNITED STATES
Gurney, Austin L., Belmont, CA, UNITED STATES
Hillan, Kenneth J., San Francisco, CA, UNITED STATES
Kljavin, Ivar J., Lafayette, CA, UNITED STATES
Kuo, Sophia S., San Francisco, CA, UNITED STATES
Napier, Mary A., Hillsborough, CA, UNITED STATES
Pan, James, Belmont, CA, UNITED STATES
Paoni, Nicholas F., Belmont, CA, UNITED STATES
Roy, Margaret Ann, San Francisco, CA, UNITED STATES
Shelton, David L., Oakland, CA, UNITED STATES
Stewart, Timothy A., San Francisco, CA, UNITED STATES
Tumas, Daniel, Orinda, CA, UNITED STATES
Williams, P. Mickey, Half Moon Bay, CA, UNITED STATES
Wood, William I., Hillsborough, CA, UNITED STATES

PA Genentech, Inc. (U.S. corporation)

PI US 2003054405 A1 20030320
AI US 2001-999833 A1 20011024 (9)
RLI Continuation of Ser. No. US 1998-40220, filed on 17 Mar 1998, GRANTED, Pat. No. US 6391311 Continuation of Ser. No. US 1998-105413, filed on 26 Jun 1998, ABANDONED Continuation of Ser. No. US 1998-168978, filed on 7 Oct 1998, ABANDONED Continuation of Ser. No. US 1998-184216, filed on 2 Nov 1998, ABANDONED Continuation of Ser. No. US 1998-187368, filed on 6 Nov 1998, PENDING Continuation of Ser. No. US 1998-202054, filed on 7 Dec 1998, PENDING Continuation of Ser. No. US 1998-218517, filed on 22 Dec 1998, ABANDONED Continuation of Ser. No. US 1999-254465, filed on 5 Mar 1999, GRANTED, Pat. No. US 6410708 Continuation of Ser. No. US 1999-265686, filed on 10 Mar 1999, GRANTED, Pat. No. US 6455283 Continuation of Ser. No. US 1999-267213, filed on 12 Mar 1999, ABANDONED Continuation of Ser. No. US 1999-284291, filed on 12 Apr 1999, ABANDONED Continuation of Ser. No. US 1999-311832, filed on 14 May 1999, PENDING Continuation of Ser. No. US 380137, PENDING Continuation of Ser. No. US 1999-380138, filed on 25 Aug 1999, ABANDONED Continuation of Ser. No. US 1999-380142, filed on 25 Aug 1999, ABANDONED Continuation of Ser. No. US 2000-709238, filed on 8 Nov 2000, ABANDONED Continuation of Ser. No. US 2000-723749, filed on 27 Nov 2000, PENDING Continuation of Ser. No. US 2000-747259, filed on 20 Dec 2000, PENDING Continuation of Ser. No. US 2001-816744, filed on 22 Mar 2001, PENDING Continuation of Ser. No. US 2001-816920, filed on 22 Mar 2001, PENDING Continuation of Ser. No. US 2001-854280, filed on 10 May 2001, PENDING Continuation of Ser. No. US 2001-854208, filed on 10 May 2001, PENDING Continuation of Ser. No. US 2001-872035, filed on 1 Jun 2001, ABANDONED Continuation of Ser. No. US 2001-874503, filed on 5 Jun 2001, PENDING Continuation of Ser. No. US 2001-882636, filed on 14 Jun 2001, ABANDONED Continuation of Ser. No. US 2001-886342, filed on 19 Jun 2001, ABANDONED Continuation of Ser. No. US 2001-918585, filed on 30 Jul 2001, PENDING
PRAI WO 1998-US21141 19981007

DT Utility
FS APPLICATION
LREP Ginger R. Dreger, Esq., Knobbe Martens Olson & Bear, 620 Newport Center Drive, Sixteenth Floor, Newport Beach, CA, 92660
CLMN Number of Claims: 57
ECL Exemplary Claim: 1
DRWN 237 Drawing Page(s)
LN.CNT 21659
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is directed to novel polypeptides and to nucleic acid molecules encoding those polypeptides. Also provided herein are vectors and host cells comprising those nucleic acid sequences, chimeric polypeptide molecules comprising the polypeptides of the present invention fused to heterologous polypeptide sequences, antibodies which bind to the polypeptides of the present invention and to methods for producing the polypeptides of the present invention.

L19 ANSWER 60 OF 87 USPATFULL
AN 2003:71954 USPATFULL
TI Secreted and transmembrane polypeptides and nucleic acids encoding the same
IN Ashkenazi, Avi J., San Mateo, CA, UNITED STATES
Baker, Kevin P., Darnestown, MD, UNITED STATES
Botstein, David, Belmont, CA, UNITED STATES
Desnoyers, Luc, San Francisco, CA, UNITED STATES
Eaton, Dan L., San Rafael, CA, UNITED STATES
Ferrara, Napoleone, San Francisco, CA, UNITED STATES
Filvaroff, Ellen, San Francisco, CA, UNITED STATES
Fong, Sherman, Alameda, CA, UNITED STATES
Gao, Wei-Qiang, Palo Alto, CA, UNITED STATES
Gerber, Hanspeter, San Francisco, CA, UNITED STATES
Gerritsen, Mary E., San Mateo, CA, UNITED STATES
Goddard, Audrey, San Francisco, CA, UNITED STATES
Godowski, Paul J., Burlingame, CA, UNITED STATES
Grimaldi, J. Christopher, San Francisco, CA, UNITED STATES
Gurney, Austin L., Belmont, CA, UNITED STATES
Hillan, Kenneth J., San Francisco, CA, UNITED STATES
Kljavin, Ivar J., Lafayette, CA, UNITED STATES
Kuo, Sophia S., San Francisco, CA, UNITED STATES
Napier, Mary A., Hillsborough, CA, UNITED STATES
Pan, James, Belmont, CA, UNITED STATES
Paoni, Nicholas F., Belmont, CA, UNITED STATES
Roy, Margaret Ann, San Francisco, CA, UNITED STATES
Shelton, David L., Oakland, CA, UNITED STATES
Stewart, Timothy A., San Francisco, CA, UNITED STATES
Tumas, Daniel, Orinda, CA, UNITED STATES
Williams, P. Mickey, Half Moon Bay, CA, UNITED STATES
Wood, William I., Hillsborough, CA, UNITED STATES
PA Genentech, Inc. (U.S. corporation)
PI US 2003050241 A1 20030313
AI US 2001-978564 A1 20011016 (9)
RLI Continuation of Ser. No. US 2001-918585, filed on 30 Jul 2001, PENDING
PRAI WO 1998-US21141 19981007
DT Utility
FS APPLICATION

LREP Ginger R. Dreger, Esq., Knobbe Martens Olson & Bear, Suite 1150, 201 California Street, San Francisco, CA, 94111
CLMN Number of Claims: 57
ECL Exemplary Claim: 1
DRWN 237 Drawing Page(s)
LN.CNT 21202
AB The present invention is directed to novel polypeptides and to nucleic acid molecules encoding those polypeptides. Also provided herein are vectors and host cells comprising those nucleic acid sequences, chimeric polypeptide molecules comprising the polypeptides of the present invention fused to heterologous polypeptide sequences, antibodies which bind to the polypeptides of the present invention and to methods for producing the polypeptides of the present invention.

L19 ANSWER 61 OF 87 USPATFULL
AN 2003:71953 USPATFULL
TI Secreted and transmembrane polypeptides and nucleic acids encoding the same
IN Ashkenazi, Avi J., San Mateo, CA, UNITED STATES
Baker, Kevin P., Darnestown, MD, UNITED STATES
Botstein, David, Belmont, CA, UNITED STATES
Desnoyers, Luc, San Francisco, CA, UNITED STATES
Eaton, Dan L., San Rafael, CA, UNITED STATES
Ferrara, Napoleone, San Francisco, CA, UNITED STATES
Filvaroff, Ellen, San Francisco, CA, UNITED STATES
Fong, Sherman, Alameda, CA, UNITED STATES
Gao, Wei-Qiang, Palo Alto, CA, UNITED STATES
Gerber, Hanspeter, San Francisco, CA, UNITED STATES
Gerritsen, Mary E., San Mateo, CA, UNITED STATES
Goddard, Audrey, San Francisco, CA, UNITED STATES
Godowski, Paul J., Burlingame, CA, UNITED STATES
Grimaldi, J. Christopher, San Francisco, CA, UNITED STATES
Gurney, Austin L., Belmont, CA, UNITED STATES
Hillan, Kenneth J., San Francisco, CA, UNITED STATES
Kljavin, Ivar J., Lafayette, CA, UNITED STATES
Kuo, Sophia S., San Francisco, CA, UNITED STATES
Napier, Mary A., Hillsborough, CA, UNITED STATES
Pan, James, Belmont, CA, UNITED STATES
Paoni, Nicholas F., Belmont, CA, UNITED STATES
Roy, Margaret Ann, San Francisco, CA, UNITED STATES
Shelton, David L., Oakland, CA, UNITED STATES
Stewart, Timothy A., San Francisco, CA, UNITED STATES
Tumas, Daniel, Orinda, CA, UNITED STATES
Williams, P. Mickey, Half Moon Bay, CA, UNITED STATES
Wood, William I., Hillsborough, CA, UNITED STATES
PA Genentech, Inc. (U.S. corporation)
PI US 2003050240 A1 20030313
AI US 2001-978403 A1 20011016 (9)
RLI Continuation of Ser. No. US 2001-918585, filed on 30 Jul 2001, PENDING
PRAI WO 1998-US21141 19981007
DT Utility
FS APPLICATION
LREP Ginger R. Dreger, Esq., Knobbe Martens Olson & Bear, Suite 1150, 201 California Street, San Francisco, CA, 94111
CLMN Number of Claims: 57

ECL Exemplary Claim: 1
DRWN 236 Drawing Page(s)
LN.CNT 21872
AB The present invention is directed to novel polypeptides and to nucleic acid molecules encoding those polypeptides. Also provided herein are vectors and host cells comprising those nucleic acid sequences, chimeric polypeptide molecules comprising the polypeptides of the present invention fused to heterologous polypeptide sequences, antibodies which bind to the polypeptides of the present invention and to methods for producing the polypeptides of the present invention.

L19 ANSWER 62 OF 87 USPATFULL
AN 2003:71952 USPATFULL
TI Secreted and transmembrane polypeptides and nucleic acids encoding the same
IN Ashkenazi, Avi J., San Mateo, CA, UNITED STATES
Baker, Kevin P., Darnestown, CA, UNITED STATES
Botstein, David, Belmont, CA, UNITED STATES
Desnoyers, Luc, San Francisco, CA, UNITED STATES
Eaton, Dan L., San Rafael, CA, UNITED STATES
Ferrara, Napoleone, San Francisco, CA, UNITED STATES
Filvaroff, Ellen, San Francisco, CA, UNITED STATES
Fong, Sherman, Alameda, CA, UNITED STATES
Gao, Wei-Qiang, Palo Alto, CA, UNITED STATES
Gerber, Hanspeter, San Francisco, CA, UNITED STATES
Gerritsen, Mary E., San Mateo, CA, UNITED STATES
Goddard, Audrey, San Francisco, CA, UNITED STATES
Godowski, Paul J., Burlingame, CA, UNITED STATES
Grimaldi, J. Christopher, San Francisco, CA, UNITED STATES
Gurney, Austin L., Belmont, CA, UNITED STATES
Hillan, Kenneth J., San Francisco, CA, UNITED STATES
Kljavin, Ivar J., Lafayette, CA, UNITED STATES
Kuo, Sophia S., San Francisco, CA, UNITED STATES
Napier, Mary A., Hillsborough, CA, UNITED STATES
Pan, James, Belmont, CA, UNITED STATES
Paoni, Nicholas F., Belmont, CA, UNITED STATES
Roy, Margaret Ann, San Francisco, CA, UNITED STATES
Shelton, David L., Oakland, CA, UNITED STATES
Stewart, Timothy A., San Francisco, CA, UNITED STATES
Tumas, Daniel, Orinda, CA, UNITED STATES
Williams, P. Mickey, Half Moon Bay, CA, UNITED STATES
Wood, William I., Hillsborough, CA, UNITED STATES
PA Genentech, Inc. (U.S. corporation)
PI US 2003050239 A1 20030313
AI US 2001-978191 A1 20011015 (9)
RLI Continuation of Ser. No. US 1998-40220, filed on 17 Mar 1998, GRANTED, Pat. No. US 6391311 Continuation of Ser. No. US 1998-105413, filed on 26 Jun 1998, ABANDONED Continuation of Ser. No. US 1998-168978, filed on 7 Oct 1998, ABANDONED Continuation of Ser. No. US 1998-184216, filed on 2 Nov 1998, ABANDONED Continuation of Ser. No. US 1998-187368, filed on 6 Nov 1998, PENDING Continuation of Ser. No. US 1998-202054, filed on 7 Dec 1998, PENDING Continuation of Ser. No. US 1998-218517, filed on 22 Dec 1998, ABANDONED Continuation of Ser. No. US 1999-254465, filed on 5 Mar 1999, GRANTED, Pat. No. US 6410708 Continuation of Ser. No. US 1999-265686, filed on 10 Mar 1999, GRANTED, Pat. No. US 6455283

Continuation of Ser. No. US 1999-267213, filed on 12 Mar 1999, ABANDONED
Continuation of Ser. No. US 1999-284291, filed on 12 Apr 1999, ABANDONED
Continuation of Ser. No. US 1999-311832, filed on 14 May 1999, PENDING
Continuation of Ser. No. US 380137, PENDING Continuation of Ser. No. US
1999-380138, filed on 25 Aug 1999, ABANDONED Continuation of Ser. No. US
1999-380142, filed on 25 Aug 1999, ABANDONED Continuation of Ser. No. US
2000-709238, filed on 8 Nov 2000, ABANDONED Continuation of Ser. No. US
2000-723749, filed on 27 Nov 2000, PENDING Continuation of Ser. No. US
2000-747259, filed on 20 Dec 2000, PENDING Continuation of Ser. No. US
2001-816744, filed on 22 Mar 2001, PENDING Continuation of Ser. No. US
2001-816920, filed on 22 Mar 2001, PENDING Continuation of Ser. No. US
2001-854280, filed on 10 May 2001, PENDING Continuation of Ser. No. US
2001-854208, filed on 10 May 2001, PENDING Continuation of Ser. No. US
2001-872035, filed on 1 Jun 2001, ABANDONED Continuation of Ser. No. US
2001-874503, filed on 5 Jun 2001, PENDING Continuation of Ser. No. US
2001-882636, filed on 14 Jun 2001, ABANDONED Continuation of Ser. No. US
2001-886342, filed on 19 Jun 2001, ABANDONED Continuation of Ser. No. US
2001-918585, filed on 30 Jul 2001, PENDING
PRAI WO 1998-US21141 19981007
DT Utility
FS APPLICATION
LREP Ginger R. Dreger, Esq., Knobbe Martens Olson & Bear, 620 NEWPORT CENTER DRIVE, SIXTEENTH FLOOR, NEWPORT BEACH, CA, 92660
CLMN Number of Claims: 57
ECL Exemplary Claim: 1
DRWN 237 Drawing Page(s)
LN.CNT 15094
AB The present invention is directed to novel polypeptides and to nucleic acid molecules encoding those polypeptides. Also provided herein are vectors and host cells comprising those nucleic acid sequences, chimeric polypeptide molecules comprising the polypeptides of the present invention fused to heterologous polypeptide sequences, antibodies which bind to the polypeptides of the present invention and to methods for producing the polypeptides of the present invention.

L19 ANSWER 63 OF 87 USPATFULL
AN 2003:71399 USPATFULL
TI Secreted and transmembrane polypeptides and nucleic acids encoding the same
IN Ashkenazi, Avi J., San Mateo, CA, UNITED STATES
Baker, Kevin P., Darnestown, MD, UNITED STATES
Botstein, David, Belmont, CA, UNITED STATES
Desnoyers, Luc, San Francisco, CA, UNITED STATES
Eaton, Dan L., San Rafael, CA, UNITED STATES
Ferrara, Napoleone, San Francisco, CA, UNITED STATES
Filvaroff, Ellen, San Francisco, CA, UNITED STATES
Fong, Sherman, Alameda, CA, UNITED STATES
Gao, Wei-Qiang, Palo Alto, CA, UNITED STATES
Gerber, Hanspeter, San Francisco, CA, UNITED STATES
Gerritsen, Mary E., San Mateo, CA, UNITED STATES
Goddard, Audrey, San Francisco, CA, UNITED STATES
Godowski, Paul J., Burlingame, CA, UNITED STATES
Grimaldi, J Christopher, San Francisco, CA, UNITED STATES
Gurney, Austin L., Belmont, CA, UNITED STATES
Hillan, Kenneth J., San Francisco, CA, UNITED STATES

Kljavin, Ivar J., Lafayette, CA, UNITED STATES
Kuo, Sophia S., San Francisco, CA, UNITED STATES
Napier, Mary A., Hillsborough, CA, UNITED STATES
Pan, James, Belmont, CA, UNITED STATES
Paoni, Nicholas F., Belmont, CA, UNITED STATES
Roy, Margaret Ann, San Francisco, CA, UNITED STATES
Shelton, David L., Oakland, CA, UNITED STATES
Stewart, Timothy A., San Francisco, CA, UNITED STATES
Tumas, Daniel, Orinda, CA, UNITED STATES
Williams, P. Mickey, Half Moon Bay, CA, UNITED STATES
Wood, William I., Hillsborough, CA, UNITED STATES
PA Genentech, Inc. (U.S. corporation)
PI US 2003049684 A1 20030313
AI US 2001-17081 A1 20011024 (10)
RLI Continuation of Ser. No. US 2001-918585, filed on 30 Jul 2001, PENDING Continuation of Ser. No. US 1998-40220, filed on 17 Mar 1998, GRANTED, Pat. No. US 6391311 Continuation of Ser. No. US 1998-105413, filed on 26 Jun 1998, ABANDONED Continuation of Ser. No. US 1998-168978, filed on 7 Oct 1998, ABANDONED Continuation of Ser. No. US 1998-184216, filed on 2 Nov 1998, ABANDONED Continuation of Ser. No. US 1998-187368, filed on 6 Nov 1998, PENDING Continuation of Ser. No. US 1998-202054, filed on 7 Dec 1998, PENDING Continuation of Ser. No. US 1998-218517, filed on 22 Dec 1998, ABANDONED Continuation of Ser. No. US 1999-254465, filed on 5 Mar 1999, GRANTED, Pat. No. US 6410708 Continuation of Ser. No. US 1999-265686, filed on 10 Mar 1999, GRANTED, Pat. No. US 6455283 Continuation of Ser. No. US 1999-267213, filed on 12 Mar 1999, ABANDONED Continuation of Ser. No. US 1999-284291, filed on 12 Apr 1999, ABANDONED Continuation of Ser. No. US 1999-311832, filed on 14 May 1999, PENDING Continuation of Ser. No. US 380137, PENDING Continuation of Ser. No. US 1999-380138, filed on 25 Aug 1999, ABANDONED Continuation of Ser. No. US 1999-380142, filed on 25 Aug 1999, ABANDONED Continuation of Ser. No. US 2000-709238, filed on 8 Nov 2000, ABANDONED Continuation of Ser. No. US 2000-723749, filed on 27 Nov 2000, PENDING Continuation of Ser. No. US 2000-747259, filed on 20 Dec 2000, PENDING Continuation of Ser. No. US 2001-816744, filed on 22 Mar 2001, PENDING Continuation of Ser. No. US 2001-816920, filed on 22 Mar 2001, PENDING Continuation of Ser. No. US 2001-854280, filed on 10 May 2001, PENDING Continuation of Ser. No. US 2001-854208, filed on 10 May 2001, PENDING Continuation of Ser. No. US 2001-872035, filed on 1 Jun 2001, ABANDONED Continuation of Ser. No. US 2001-874503, filed on 5 Jun 2001, PENDING Continuation of Ser. No. US 2001-882636, filed on 14 Jun 2001, ABANDONED Continuation of Ser. No. US 2001-886342, filed on 19 Jun 2001, ABANDONED
PRAI WO 1998-US21141 19981007
DT Utility
FS APPLICATION
LREP KNOBBE, MARTENS, OLSON & BEAR, LLP, 2040 MAIN STREET, FOURTEENTH FLOOR, IRVINE, CA, 92614
CLMN Number of Claims: 57
ECL Exemplary Claim: 1
DRWN 237 Drawing Page(s)
LN.CNT 21673
AB The present invention is directed to novel polypeptides and to nucleic acid molecules encoding those polypeptides. Also provided herein are vectors and host cells comprising those nucleic acid sequences, chimeric polypeptide molecules comprising the polypeptides of the present

invention fused to heterologous polypeptide sequences, antibodies which bind to the polypeptides of the present invention and to methods for producing the polypeptides of the present invention.

L19 ANSWER 64 OF 87 USPATFULL
AN 2003 71348 USPATFULL
TI Secreted and transmembrane polypeptides and nucleic acids encoding the same
IN Ashkenazi, Avi J., San Mateo, CA, UNITED STATES
Baker, Kevin P., Darnestown, MD, UNITED STATES
Botstein, David, Belmont, CA, UNITED STATES
Desnoyers, Luc, San Francisco, CA, UNITED STATES
Eaton, Dan L., San Rafael, CA, UNITED STATES
Ferrara, Napoleone, San Francisco, CA, UNITED STATES
Filvaroff, Ellen, San Francisco, CA, UNITED STATES
Fong, Sherman, Alameda, CA, UNITED STATES
Gao, Wei-Qiang, Palo Alto, CA, UNITED STATES
Gerber, Hanspeter, San Francisco, CA, UNITED STATES
Gerritsen, Mary E., San Mateo, CA, UNITED STATES
Goddard, Audrey, San Francisco, CA, UNITED STATES
Godowski, Paul J., Burlingame, CA, UNITED STATES
Grimaldi, J. Christopher, San Francisco, CA, UNITED STATES
Gurney, Austin L., Belmont, CA, UNITED STATES
Hillan, Kenneth J., San Francisco, CA, UNITED STATES
Kljavin, Ivar J., Lafayette, CA, UNITED STATES
Kuo, Sophia S., San Francisco, CA, UNITED STATES
Napier, Mary A., Hillsborough, CA, UNITED STATES
Pan, James, Belmont, CA, UNITED STATES
Paoni, Nicholas F., Belmont, CA, UNITED STATES
Roy, Margaret Ann, San Francisco, CA, UNITED STATES
Shelton, David L., Oakland, CA, UNITED STATES
Stewart, Timothy A., San Francisco, CA, UNITED STATES
Tumas, Daniel, Orinda, CA, UNITED STATES
Williams, P. Mickey, Half Moon Bay, CA, UNITED STATES
Wood, William I., Hillsborough, CA, UNITED STATES
PA Genentech, Inc. (U.S. corporation)
PI US 2003049633 A1 20030313
AI US 2001-978585 A1 20011016 (9)
RLI Continuation of Ser. No. US 1998-40220, filed on 17 Mar 1998, GRANTED, Pat. No. US 6391311 Continuation of Ser. No. US 1998-105413, filed on 26 Jun 1998, ABANDONED Continuation of Ser. No. US 1998-168978, filed on 7 Oct 1998, ABANDONED Continuation of Ser. No. US 1998-184216, filed on 2 Nov 1998, ABANDONED Continuation of Ser. No. US 1998-187368, filed on 6 Nov 1998, PENDING Continuation of Ser. No. US 1998-202054, filed on 7 Dec 1998, PENDING Continuation of Ser. No. US 1998-218517, filed on 22 Dec 1998, ABANDONED Continuation of Ser. No. US 1999-254465, filed on 5 Mar 1999, GRANTED, Pat. No. US 6410708 Continuation of Ser. No. US 1999-265686, filed on 10 Mar 1999, GRANTED, Pat. No. US 6455283 Continuation of Ser. No. US 1999-267213, filed on 12 Mar 1999, ABANDONED Continuation of Ser. No. US 1999-284291, filed on 12 Apr 1999, ABANDONED Continuation of Ser. No. US 1999-311832, filed on 14 May 1999, PENDING Continuation of Ser. No. US 380137, PENDING Continuation of Ser. No. US 1999-380138, filed on 25 Aug 1999, ABANDONED Continuation of Ser. No. US 1999-380142, filed on 25 Aug 1999, ABANDONED Continuation of Ser. No. US 2000-709238, filed on 8 Nov 2000, ABANDONED Continuation of Ser. No. US

2000-723749, filed on 27 Nov 2000, PENDING Continuation of Ser. No. US
2000-747259, filed on 20 Dec 2000, PENDING Continuation of Ser. No. US
2001-816744, filed on 22 Mar 2001, PENDING Continuation of Ser. No. US
2001-816920, filed on 22 Mar 2001, PENDING Continuation of Ser. No. US
2001-854280, filed on 10 May 2001, PENDING Continuation of Ser. No. US
2001-854208, filed on 10 May 2001, PENDING Continuation of Ser. No. US
2001-872035, filed on 1 Jun 2001, ABANDONED Continuation of Ser. No. US
2001-874503, filed on 5 Jun 2001, PENDING Continuation of Ser. No. US
2001-882636, filed on 14 Jun 2001, ABANDONED Continuation of Ser. No. US
2001-886342, filed on 19 Jun 2001, ABANDONED Continuation of Ser. No. US
2001-918585, filed on 30 Jul 2001, PENDING

PRAI WO 1998-US21141 19981007

DT Utility

FS APPLICATION

LREP Ginger R. Dreger, Esq., Knobbe Martens Olson & Bear, Suite 1150, 201 California Street, San Francisco, CA, 94111

CLMN Number of Claims: 57

ECL Exemplary Claim: 1

DRWN 237 Drawing Page(s)

LN.CNT 21674

AB The present invention is directed to novel polypeptides and to nucleic acid molecules encoding those polypeptides. Also provided herein are vectors and host cells comprising those nucleic acid sequences, chimeric polypeptide molecules comprising the polypeptides of the present invention fused to heterologous polypeptide sequences, antibodies which bind to the polypeptides of the present invention and to methods for producing the polypeptides of the present invention.

L19 ANSWER 65 OF 87 USPATFULL

AN 2003:65338 USPATFULL

TI Secreted and transmembrane polypeptides and nucleic acids encoding the same

IN Ashkenazi, Avi J., San Mateo, CA, UNITED STATES
Baker, Kevin P., Darnestown, MD, UNITED STATES
Botstein, David, Belmont, CA, UNITED STATES
Desnoyers, Luc, San Francisco, CA, UNITED STATES
Eaton, Dan L., San Rafael, CA, UNITED STATES
Ferrara, Napoleone, San Francisco, CA, UNITED STATES
Filvaroff, Ellen, San Francisco, CA, UNITED STATES
Fong, Sherman, Alameda, CA, UNITED STATES
Gao, Wei-Qiang, Palo Alto, CA, UNITED STATES
Gerber, Hanspeter, San Francisco, CA, UNITED STATES
Gerritsen, Mary E., San Mateo, CA, UNITED STATES
Goddard, Audrey, San Francisco, CA, UNITED STATES
Godowski, Paul J., Burlingame, CA, UNITED STATES
Grimaldi, J. Christopher, San Francisco, CA, UNITED STATES
Gurney, Austin L., Belmont, CA, UNITED STATES
Hillan, Kenneth J., San Francisco, CA, UNITED STATES
Kljavin, Ivar J., Lafayette, CA, UNITED STATES
Kuo, Sophia S., San Francisco, CA, UNITED STATES
Napier, Mary A., Hillsborough, CA, UNITED STATES
Pan, James, Belmont, CA, UNITED STATES
Paoni, Nicholas F., Belmont, CA, UNITED STATES
Roy, Margaret Ann, San Francisco, CA, UNITED STATES
Shelton, David L., Oakland, CA, UNITED STATES

Stewart, Timothy A., San Francisco, CA, UNITED STATES
Tumas, Daniel, Orinda, CA, UNITED STATES
Williams, P. Mickey, Half Moon Bay, CA, UNITED STATES
Wood, William I., Hillsborough, CA, UNITED STATES
PA Genentech, Inc. (2)
PI US 2003045462 A1 20030306
AI US 2001-978608 A1 20011016 (9)
RLI Continuation of Ser. No. US 1998-40220, filed on 17 Mar 1998, GRANTED, Pat. No. US 6391311 Continuation of Ser. No. US 1998-105413, filed on 26 Jun 1998, ABANDONED Continuation of Ser. No. US 1998-168978, filed on 7 Oct 1998, ABANDONED Continuation of Ser. No. US 1998-184216, filed on 2 Nov 1998, ABANDONED Continuation of Ser. No. US 1998-187368, filed on 6 Nov 1998, PENDING Continuation of Ser. No. US 1998-202054, filed on 7 Dec 1998, PENDING Continuation of Ser. No. US 1998-218517, filed on 22 Dec 1998, ABANDONED Continuation of Ser. No. US 1999-254465, filed on 5 Mar 1999, GRANTED, Pat. No. US 6410708 Continuation of Ser. No. US 1999-265686, filed on 10 Mar 1999, GRANTED, Pat. No. US 6455283 Continuation of Ser. No. US 1999-267213, filed on 12 Mar 1999, ABANDONED Continuation of Ser. No. US 1999-284291, filed on 12 Apr 1999, ABANDONED Continuation of Ser. No. US 1999-311832, filed on 14 May 1999, PENDING Continuation of Ser. No. US 380137, PENDING Continuation of Ser. No. US 1999-380138, filed on 25 Aug 1999, ABANDONED Continuation of Ser. No. US 1999-380142, filed on 25 Aug 1999, ABANDONED Continuation of Ser. No. US 2000-709238, filed on 8 Nov 2000, ABANDONED Continuation of Ser. No. US 2000-723749, filed on 27 Nov 2000, PENDING Continuation of Ser. No. US 2000-747259, filed on 20 Dec 2000, PENDING Continuation of Ser. No. US 2001-816744, filed on 22 Mar 2001, PENDING Continuation of Ser. No. US 2001-816920, filed on 22 Mar 2001, PENDING Continuation of Ser. No. US 2001-854280, filed on 10 May 2001, PENDING Continuation of Ser. No. US 2001-854208, filed on 10 May 2001, PENDING Continuation of Ser. No. US 2001-872035, filed on 1 Jun 2001, ABANDONED Continuation of Ser. No. US 2001-874503, filed on 5 Jun 2001, PENDING Continuation of Ser. No. US 2001-882636, filed on 14 Jun 2001, ABANDONED Continuation of Ser. No. US 2001-886342, filed on 19 Jun 2001, ABANDONED Continuation of Ser. No. US 2001-918585, filed on 30 Jul 2001, PENDING
PRAI WO 1998-US21141 19981007
DT Utility
FS APPLICATION
LREP Ginger R. Dreger, Esq., Knobbe Martens Olson & Bear, 620 NEWPORT CENTER DRIVE, SIXTEENTH FLOOR, NEWPORT BEACH, CA, 92660
CLMN Number of Claims: 57
ECL Exemplary Claim: 1
DRWN 237 Drawing Page(s)
LN.CNT 21638
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is directed to novel polypeptides and to nucleic acid molecules encoding those polypeptides. Also provided herein are vectors and host cells comprising those nucleic acid sequences, chimeric polypeptide molecules comprising the polypeptides of the present invention fused to heterologous polypeptide sequences, antibodies which bind to the polypeptides of the present invention and to methods for producing the polypeptides of the present invention.

L19 ANSWER 66 OF 87 USPATFULL
AN 2003:51134 USPATFULL

TI Crystals and structure of LuxS
IN Lewis, Hal A., San Diego, CA, UNITED STATES
PI US 2003036091 A1 20030220
AI US 2000-729838 A1 20001204 (9)
PRAI US 2000-237933P 20001003 (60)
DT Utility
FS APPLICATION
LREP Pennie & Edmonds, LLP, 3300 Hillview Avenue, Palo Alto, CA, 94304
CLMN Number of Claims: 53
ECL Exemplary Claim: 1
DRWN 19 Drawing Page(s)
LN.CNT 2360
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention provides crystalline LuxS, machine readable media embedded with the three-dimensional atomic structure coordinates of LuxS, and subsets thereof, and methods of using them.

L19 ANSWER 67 OF 87 USPATFULL
AN 2003:40573 USPATFULL
TI Control of gene expression in eukaryotic cells
IN Oulmassov, Tim N , Chesterfield, MO, United States
McBride, Kevin E., Davis, CA, United States
Miller, Paula C., St. Louis, MO, United States
Anderson, John C., Kihei, HI, United States
Crossland, Lyle D., St. Louis, MO, United States
Adams, Thomas H., Stonington, CT, United States
Qurollo, Barbara A., Somerville, MA, United States
Gavrias, Victoria, North Stonington, CT, United States
PA Calgene LLC, St. Louis, MO, United States (U.S. corporation)
PI US 6518066 B1 20030211
AI US 2000-608958 20000630 (9)
PRAI US 1999-148441P 19990701 (60)
US 2000-177578P 20000122 (60)
US 2000-195690P 20000407 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Yucel, Remy; Assistant Examiner: Davis, Katharine F
CLMN Number of Claims: 2
ECL Exemplary Claim: 1
DRWN 29 Drawing Figure(s); 29 Drawing Page(s)
LN.CNT 2858
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB DNA constructs and other compositions and methods for controlling gene expression in eukaryotic cells and organisms are derived from bacterial quorum sensing systems. One or more cis elements from the luxI promoter ("lux box") or a functionally similar sequence are incorporated in a eukaryotic promoter. A receptor protein from the LuxR family of transcriptional regulators, upon binding an acylated homoserine ***lactone*** (AHL) compound, interacts with the lux box, modulating the activity of the promoter

L19 ANSWER 68 OF 87 USPATFULL
AN 2003:30982 USPATFULL
TI Methods for regulating bacteria
IN Surette, Michael G., Calgary, CANADA

Stein, Jeffrey L., San Diego, CA, UNITED STATES
PI US 2003022932 A1 20030130
AI US 2002-151189 A1 20020517 (10)
PRAI US 2001-292543P 20010521 (60)
DT Utility
FS APPLICATION
LREP KNOBBE MARTENS OLSON & BEAR LLP, 2040 MAIN STREET, FOURTEENTH FLOOR, IRVINE, CA, 92614
CLMN Number of Claims: 25
ECL Exemplary Claim: 1
DRWN 7 Drawing Page(s)
LN.CNT 638
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Bacteria lacking the ability to secrete ***autoinducer*** -2 may nonetheless be regulated by contacting the bacteria with an amount of an ***autoinducer*** -2 effector that is sufficient to regulate the bacterium. Pseudomonas ***aeruginosa*** , a bacterium that colonizes the lungs of cystic fibrosis patients with often devastating effects on health, is a preferred target for regulation.

L19 ANSWER 69 OF 87 USPATFULL
AN 2003:18001 USPATFULL
TI ***Autoinducer*** compounds
IN Livinghouse, Tom, Bozeman, MT, UNITED STATES
PI US 2003013755 A1 20030116
AI US 2002-99935 A1 20020313 (10)
RLI Continuation-in-part of Ser. No. US 2001-969501, filed on 1 Oct 2001, ABANDONED Continuation of Ser. No. US 1998-99196, filed on 18 Jun 1998, GRANTED, Pat. No. US 6337347
DT Utility
FS APPLICATION
LREP LAHIVE & COCKFIELD, 28 STATE STREET, BOSTON, MA, 02109
CLMN Number of Claims: 28
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 745
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB ***Autoinducer*** compounds which enhance gene expression in a wide variety of microorganisms, therapeutic compositions and therapeutic methods wherein gene expression within microorganisms is regulated are disclosed.

L19 ANSWER 70 OF 87 USPATFULL
AN 2003:4063 USPATFULL
TI Secreted and transmembrane polypeptides and nucleic acids encoding the same
IN Ashkenazi, Avi J., San Mateo, CA, UNITED STATES
Baker, Kevin P., Darnestown, MD, UNITED STATES
Botstein, David, Belmont, CA, UNITED STATES
Desnoyers, Luc, San Francisco, CA, UNITED STATES
Eaton, Dan L., San Rafael, CA, UNITED STATES
Ferrara, Napoleone, San Francisco, CA, UNITED STATES
Filvaroff, Ellen, San Francisco, CA, UNITED STATES
Fong, Sherman, Alameda, CA, UNITED STATES
Gao, Wei-Qiang, Palo Alto, CA, UNITED STATES

Gerber, Hanspeter, San Francisco, CA, UNITED STATES
Gerritsen, Mary E., San Mateo, CA, UNITED STATES
Goddard, Audrey, San Francisco, CA, UNITED STATES
Godowski, Paul J., Burlingame, CA, UNITED STATES
Grimaldi, J. Christopher, San Francisco, CA, UNITED STATES
Gurney, Austin L., Belmont, CA, UNITED STATES
Hillan, Kenneth J., San Francisco, CA, UNITED STATES
Kljavin, Ivar J., Lafayette, CA, UNITED STATES
Kuo, Sophia S., San Francisco, CA, UNITED STATES
Napier, Mary A., Hillsborough, CA, UNITED STATES
Pan, James, Belmont, CA, UNITED STATES
Paoni, Nicholas F., Belmont, CA, UNITED STATES
Roy, Margaret Ann, San Francisco, CA, UNITED STATES
Shelton, David L., Oakland, CA, UNITED STATES
Stewart, Timothy A., San Francisco, CA, UNITED STATES
Tumas, Daniel, Orinda, CA, UNITED STATES
Williams, P. Mickey, Half Moon Bay, CA, UNITED STATES
Wood, William I., Hillsborough, CA, UNITED STATES

PA Genentech, Inc. (U.S. corporation)
PI US 2003004102 A1 20030102
AI US 2001-978189 A1 20011015 (9)
RLI Continuation of Ser. No. US 1998-40220, filed on 17 Mar 1998, PENDING
Continuation of Ser. No. US 1998-105413, filed on 26 Jun 1998, PENDING
Continuation of Ser. No. US 1998-168978, filed on 7 Oct 1998, PENDING
Continuation of Ser. No. US 1998-184216, filed on 2 Nov 1998, ABANDONED
Continuation of Ser. No. US 1998-187368, filed on 6 Nov 1998, PENDING
Continuation of Ser. No. US 1998-202054, filed on 7 Dec 1998, PENDING
Continuation of Ser. No. US 1998-218517, filed on 22 Dec 1998, ABANDONED
Continuation of Ser. No. US 1999-254465, filed on 5 Mar 1999, PENDING
Continuation of Ser. No. US 1999-265686, filed on 10 Mar 1999, PENDING
Continuation of Ser. No. US 1999-267213, filed on 12 Mar 1999, ABANDONED
Continuation of Ser. No. US 1999-284291, filed on 12 Apr 1999, ABANDONED
Continuation of Ser. No. US 1999-311832, filed on 14 May 1999, PENDING
Continuation of Ser. No. US 380137, PENDING Continuation of Ser. No. US 1999-380138, filed on 25 Aug 1999, ABANDONED Continuation of Ser. No. US 1999-380142, filed on 25 Aug 1999, ABANDONED Continuation of Ser. No. US 2000-709238, filed on 8 Nov 2000, PENDING Continuation of Ser. No. US 2000-723749, filed on 27 Nov 2000, PENDING Continuation of Ser. No. US 2000-747259, filed on 20 Dec 2000, PENDING Continuation of Ser. No. US 2001-816744, filed on 22 Mar 2001, PENDING Continuation of Ser. No. US 2001-816920, filed on 22 Mar 2001, PENDING Continuation of Ser. No. US 2001-854280, filed on 10 May 2001, PENDING Continuation of Ser. No. US 2001-854208, filed on 10 May 2001, PENDING Continuation of Ser. No. US 2001-872035, filed on 1 Jun 2001, PENDING Continuation of Ser. No. US 2001-874503, filed on 5 Jun 2001, PENDING Continuation of Ser. No. US 2001-882636, filed on 14 Jun 2001, PENDING Continuation of Ser. No. US 2001-886342, filed on 19 Jun 2001, PENDING Continuation of Ser. No. US 2001-918585, filed on 30 Jul 2001, PENDING
PRAI WO 1998-US21141 19981007
FS APPLICATION
LREP Ginger R. Dreger, Esq., Knobbe Martens Olson & Bear, Suite 1150, 201 California Street, San Francisco, CA, 94111
CLMN Number of Claims: 57
ECL Exemplary Claim: 1
DRWN 237 Drawing Page(s)

LN.CNT 21608
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is directed to novel polypeptides and to nucleic acid molecules encoding those polypeptides. Also provided herein are vectors and host cells comprising those nucleic acid sequences, chimeric polypeptide molecules comprising the polypeptides of the present invention fused to heterologous polypeptide sequences, antibodies which bind to the polypeptides of the present invention and to methods for producing the polypeptides of the present invention.

L19 ANSWER 71 OF 87 USPATFULL
AN 2002:337348 USPATFULL
TI Secreted and transmembrane polypeptides and nucleic acids encoding the same
IN Ashkenazi, Avi J., San Mateo, CA, UNITED STATES
Baker, Kevin P., Darnestown, MD, UNITED STATES
Botstein, David, Belmont, CA, UNITED STATES
Desnoyers, Luc, San Francisco, CA, UNITED STATES
Eaton, Dan L., San Rafael, CA, UNITED STATES
Ferrara, Napoleone, San Francisco, CA, UNITED STATES
Filvaroff, Ellen, San Francisco, CA, UNITED STATES
Fong, Sherman, Alameda, CA, UNITED STATES
Gao, Wei-Qiang, Palo Alto, CA, UNITED STATES
Gerber, Hanspeter, San Francisco, CA, UNITED STATES
Gerritsen, Mary E., San Mateo, CA, UNITED STATES
Goddard, Audrey, San Francisco, CA, UNITED STATES
Godowski, Paul J., Burlingame, CA, UNITED STATES
Grimaldi, J. Christopher, San Francisco, CA, UNITED STATES
Gurney, Austin L., Belmont, CA, UNITED STATES
Hillan, Kenneth J., San Francisco, CA, UNITED STATES
Kljavin, Ivar J., Lafayette, CA, UNITED STATES
Kuo, Sophia S., San Francisco, CA, UNITED STATES
Napier, Mary A., Hillsborough, CA, UNITED STATES
Pan, James, Belmont, CA, UNITED STATES
Paoni, Nicholas F., Belmont, CA, UNITED STATES
Roy, Margaret Ann, San Francisco, CA, UNITED STATES
Shelton, David L., Oakland, CA, UNITED STATES
Stewart, Timothy A., San Francisco, CA, UNITED STATES
Tumas, Daniel, Orinda, CA, UNITED STATES
Williams, P. Mickey, Half Moon Bay, CA, UNITED STATES
Wood, William I., Hillsborough, CA, UNITED STATES
PA Genentech, Inc. (U.S. corporation)
PI US 2002192706 A1 20021219
AI US 2001-999832 A1 20011024 (9)
RLI Continuation of Ser. No. US 1998-40220, filed on 17 Mar 1998, GRANTED, Pat. No. US 6391311
PRAI WO 1998-US21141 19981007
DT Utility
FS APPLICATION
LREP Ginger R. Dreger, Esq., Knobbe Martens Olson & Bear, 620 Newport Center Drive, Sixtenth Floor, Newport Beach, CA, 92660
CLMN Number of Claims: 57
ECL Exemplary Claim: 1
DRWN 237 Drawing Page(s)
LN.CNT 21732

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention is directed to novel polypeptides and to nucleic acid molecules encoding those polypeptides. Also provided herein are vectors and host cells comprising those nucleic acid sequences, chimeric polypeptide molecules comprising the polypeptides of the present invention fused to heterologous polypeptide sequences, antibodies which bind to the polypeptides of the present invention and to methods for producing the polypeptides of the present invention.

L19 ANSWER 72 OF 87 USPATFULL

AN 2002:315226 USPATFULL

TI Novel ***autoinducer*** molecules and uses therefor

IN Pesci, Everett C., Greenville, NC, UNITED STATES
Iglewski, Barbara H., Fairport, NY, UNITED STATES
Milbank, Jared B.J., Ann Arbor, MI, UNITED STATES
Pearson, James P., Cambridge, MA, UNITED STATES
Kende, Andrew S., Pittsford, NY, UNITED STATES
Greenberg, Everett Peter, Iowa City, IA, UNITED STATES

PI US 2002177715 A1 20021128

AI US 2001-945325 A1 20010831 (9)

PRAI US 2000-229715P 20000831 (60)

DT Utility

FS APPLICATION

LREP LAHIVE & COCKFIELD, 28 STATE STREET, BOSTON, MA, 02109

CLMN Number of Claims: 64

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 1568

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Novel bacterial quinolone signal molecules and, more particularly, pseudomonas quinolone signal ("PQS") molecules, e.g., 2-heptyl-3-hydroxy-4-quinolone, and analogs and derivatives thereof are described. Therapeutic compositions containing the molecules, and therapeutic methods, methods of for regulating gene expression, methods for identifying modulators of the ***autoinducer*** molecules, and methods of modulating quorum sensing signalling in bacteria using the compounds of the invention are also described.

L19 ANSWER 73 OF 87 USPATFULL

AN 2002:301735 USPATFULL

TI Secreted and transmembrane polypeptides and nucleic acids encoding the same

IN Ashkenazi, Avi, San Mateo, CA, UNITED STATES
Baker, Kevin P., Darnestown, MD, UNITED STATES
Botstein, David, Belmont, CA, UNITED STATES
Desnoyers, Luc, San Francisco, CA, UNITED STATES
Eaton, Dan, San Rafael, CA, UNITED STATES
Ferrara, Napoleone, San Francisco, CA, UNITED STATES
Filvaroff, Ellen, San Francisco, CA, UNITED STATES
Fong, Sherman, Alameda, CA, UNITED STATES
Gao, Wei-Qiang, Foster City, CA, UNITED STATES
Gerber, Hanspeter, San Francisco, CA, UNITED STATES
Gerritsen, Mary E., San Mateo, CA, UNITED STATES
Goddard, Audrey, San Francisco, CA, UNITED STATES
Godowski, Paul J., Burlingame, CA, UNITED STATES

Grimaldi, J. Christerpher, San Francisco, CA, UNITED STATES
Gurney, Austin L., Belmont, CA, UNITED STATES
Hillan, Kenneth J., San Francisco, CA, UNITED STATES
Kljavin, Ivar J., Lafayette, CA, UNITED STATES
Kuo, Sophia S., San Francisco, CA, UNITED STATES
Napier, Mary A., Hillsborough, CA, UNITED STATES
Pan, James, Belmont, CA, UNITED STATES
Paoni, Nicholas F., Belmont, CA, UNITED STATES
Roy, Margaret Ann, San Francisco, CA, UNITED STATES
Shelton, David L., Oakland, CA, UNITED STATES
Stewart, Timothy A., San Francisco, CA, UNITED STATES
Tumas, Daniel, Orinda, CA, UNITED STATES
Williams, P. Mickey, Half Moon Bay, CA, UNITED STATES
Wood, William I., Hillsborough, CA, UNITED STATES
PA Genentech, Inc. (U.S. corporation)
PI US 2002169284 A1 20021114
AI US 2001-978697 A1 20011016 (9)
RLI Continuation of Ser. No. US 1998-40220, filed on 17 Mar 1998, PENDING Continuation of Ser No US 1998-105413, filed on 26 Jun 1998, PENDING Continuation of Ser No US 1998-168978, filed on 7 Oct 1998, PENDING Continuation of Ser. No. US 1998-184216, filed on 2 Nov 1998, ABANDONED Continuation of Ser. No. US 1998-187368, filed on 6 Nov 1998, PENDING Continuation of Ser. No. US 1998-202054, filed on 7 Dec 1998, PENDING Continuation of Ser. No. US 1998-218517, filed on 22 Dec 1998, ABANDONED Continuation of Ser. No. US 1999-254465, filed on 5 Mar 1999, PENDING Continuation of Ser. No. US 1999-265686, filed on 10 Mar 1999, PENDING Continuation of Ser. No. US 1981-267213, filed on 26 May 1981, GRANTED, Pat. No. US 4435652 Continuation of Ser. No. US 1999-284291, filed on 12 Apr 1999, ABANDONED Continuation of Ser. No. US 1999-311832, filed on 14 May 1999, PENDING Continuation of Ser. No. US 380137, PENDING Continuation of Ser. No. US 1999-380138, filed on 25 Aug 1999, ABANDONED Continuation of Ser. No. US 1999-380142, filed on 25 Aug 1999, ABANDONED Continuation of Ser. No. US 2000-709238, filed on 8 Nov 2000, PENDING Continuation of Ser. No. US 2000-723749, filed on 27 Nov 2000, PENDING Continuation of Ser No. US 2000-747259, filed on 20 Dec 2000, PENDING Continuation of Ser No. US 2001-816744, filed on 22 Mar 2001, PENDING Continuation of Ser. No. US 2001-816920, filed on 22 Mar 2001, PENDING Continuation of Ser. No. US 2001-854280, filed on 10 May 2001, PENDING Continuation of Ser. No US 2001-854208, filed on 10 May 2001, PENDING Continuation of Ser. No. US 2001-872035, filed on 1 Jun 2001, PENDING Continuation of Ser No US 2001-874503, filed on 5 Jun 2001, PENDING Continuation of Ser No US 2001-882636, filed on 14 Jun 2001, PENDING Continuation of Ser. No US 2001-886342, filed on 19 Jun 2001, PENDING Continuation of Ser. No. US 2001-918585, filed on 30 Jul 2001, PENDING
PRAI WO 1998-US21141 19981007
DT Utility
FS APPLICATION
LREP Ginger R. Dreger, Esq., Knobbe Martens Olson & Bear, Suite 1150, 201 California Street, San Francisco, CA, 94111
CLMN Number of Claims: 57
ECL Exemplary Claim: 1
DRWN 237 Drawing Page(s)
LN.CNT 21798
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention is directed to novel polypeptides and to nucleic

acid molecules encoding those polypeptides. Also provided herein are vectors and host cells comprising those nucleic acid sequences, chimeric polypeptide molecules comprising the polypeptides of the present invention fused to heterologous polypeptide sequences, antibodies which bind to the polypeptides of the present invention and to methods for producing the polypeptides of the present invention.

L19 ANSWER 74 OF 87 USPATFULL
AN 2002:290775 USPATFULL
TI Genomic sequence of Rhizobium sp. NGR 234 symbiotic plasmid
IN Rosenthal, Andre, Berlin, GERMANY, FEDERAL REPUBLIC OF
Freiberg, Christoph Bernward, Wuppertal, GERMANY, FEDERAL REPUBLIC OF
Perret, Xavier Philippe, Geneva, SWITZERLAND
Broughton, William John, Geneva, SWITZERLAND
PA Andre Rosenthal, Berlin, GERMANY, FEDERAL REPUBLIC OF (non-U.S. corporation)
PI US 6475793 B1 20021105
WO 9802560 19980122
AI US 1999-214808 19990622 (9)
WO 1997-IB950 19970710
19990622 PCT 371 date
PRAI EP 1996-730001 19960712
GB 1997-10395 19970520
DT Utility
FS GRANTED
EXNAM Primary Examiner: Prouty, Rebecca E.; Assistant Examiner: Rao, Manjunath N.
LREP Woodcock Washburn LLP
CLMN Number of Claims: 9
ECL Exemplary Claim: 1
DRWN 7 Drawing Figure(s); 630 Drawing Page(s)
LN.CNT 2536
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The sequencing and analysis of the complete nucleotide sequence of symbiotic plasmid pNGR234a isolated from Rhizobium sp. NGR234. The complete sequence of pNGR234a is presented. The analysis includes the identification of a number of novel ORFs and the proteins expressible therefrom which have been ascribed putative functions.

L19 ANSWER 75 OF 87 USPATFULL
AN 2002:246357 USPATFULL
TI Methods and compositions for controlling biofilm development
IN Davies, David G, 703 S. 11th Ave., Bozeman, MT, United States 59715
Costerton, John W, 1206 Brentwood Ave., Bozeman, MT, United States 59718
PI US 6455031 B1 20020924
WO 9857618 19981223
AI US 1999-319580 19990609 (9)
WO 1998-US12695 19980618
19990609 PCT 371 date
PRAI US 1997-50093P 19970618 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Ketter, James
LREP Lahive & Cockfield, LLP, Lauro, Esq., Peter C., Hanley, Esq, Elizabeth

A.
CLMN Number of Claims: 32
ECL Exemplary Claim: 1
DRWN 13 Drawing Figure(s); 5 Drawing Page(s)
LN.CNT 1382
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method of cleaning or protecting surfaces by treatment with compositions comprising N-(3-oxododecanoyl)-L-homoserine ***lactone*** (OdDHL) blocking compounds and or N-butyryl-L-homoserine ***lactone*** (BHL) analogs, either in combination or separately.

L19 ANSWER 76 OF 87 USPATFULL
AN 2002:206585 USPATFULL
TI Antimicrobial compositions containing quaternary ammonium compounds, silanes and other disinfectants with furanones
IN Charaf, Ursula K., Land O'Lakes, WI, UNITED STATES
Avery, Richard W., High Wycombe, UNITED KINGDOM
PI US 2002111282 A1 20020815
US 6528472 B2 20030304
AI US 2001-986301 A1 20011108 (9)
PRAI US 2000-249253P 20001117 (60)
DT Utility
FS APPLICATION
LREP S C. JOHNSON & SON, INC., 1525 HOWE STREET, RACINE, WI, 53403-2236
CLMN Number of Claims: 26
ECL Exemplary Claim: 1
DRWN 9 Drawing Page(s)
LN.CNT 885
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A synergistic antimicrobial composition includes an effective amount of at least one furanone, together with other disinfectants, such as, for example, an effective amount of at least one organosilane with quaternary ammonium functionality, and or an effective amount of at least one quaternary ammonium compound. Additionally, biguanides and disinfectant amines also may be advantageously combined with furanones in an antimicrobial composition.

L19 ANSWER 77 OF 87 USPATFULL
AN 2002:199253 USPATFULL
TI Compositions and methods for regulating bacterial pathogenesis
IN Bassler, Bonnie L., Princeton, NJ, UNITED STATES
Surette, Michael G., Calgary, CANADA
PI US 2002107364 A1 20020808
AI US 2001-961453 A1 20010921 (9)
RLI Division of Ser. No. US 1999-453976, filed on 2 Dec 1999, UNKNOWN
DT Utility
FS APPLICATION
LREP KNOBBE MARTENS OLSON & BEAR LLP, 620 NEWPORT CENTER DRIVE, SIXTEENTH FLOOR, NEWPORT BEACH, CA, 92660
CLMN Number of Claims: 2
ECL Exemplary Claim: 1
DRWN 16 Drawing Page(s)
LN.CNT 3660
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The production of a purified extracellular bacterial signal called

autoinducer -2 is regulated by changes in environmental conditions associated with a shift from a free-living existence to a colonizing or pathogenic existence in a host organism.

Autoinducer -2 stimulates LuxQ luminescence genes, and is believed also to stimulate a variety of pathogenesis related genes in the bacterial species that produce it. A new class of bacterial genes is involved in the biosynthesis of ***autoinducer*** -2.

L19 ANSWER 78 OF 87 USPATFULL
AN 2002:141070 USPATFULL
TI Compositions and methods for regulating bacterial pathogenesis
IN Bassler, Bonnie L., Princeton, NJ, UNITED STATES
Surette, Michael G., Calgary, CANADA
PI US 2002072052 A1 20020613
AI US 2001-961452 A1 20010921 (9)
RLI Division of Ser. No. US 1999-453976, filed on 2 Dec 1999, PENDING
PRAI US 1998-110570P 19981202 (60)
DT Utility
FS APPLICATION
LREP KNOBBE MARTENS OLSON & BEAR LLP, 620 NEWPORT CENTER DRIVE, SIXTEENTH FLOOR, NEWPORT BEACH, CA, 92660
CLMN Number of Claims: 14
ECL Exemplary Claim: 1
DRWN 16 Drawing Page(s)
LN.CNT 3688
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The production of a purified extracellular bacterial signal called ***autoinducer*** -2 is regulated by changes in environmental conditions associated with a shift from a free-living existence to a colonizing or pathogenic existence in a host organism.

Autoinducer -2 stimulates LuxQ luminescence genes, and is believed also to stimulate a variety of pathogenesis related genes in the bacterial species that produce it. A new class of bacterial genes is involved in the biosynthesis of ***autoinducer*** -2.

L19 ANSWER 79 OF 87 USPATFULL
AN 2002:133478 USPATFULL
TI E. coli, Salmonella or Hafnia ***autoinducers***
IN Freestone, Primrose Pamela Elaine, Leicester, UNITED KINGDOM
Williams, Peter Humphrey, Leicester, UNITED KINGDOM
Lyte, Mark, Eagan, MI, UNITED STATES
Haigh, Richard David, Leicester, UNITED KINGDOM
PI US 2002068330 A1 20020606
AI US 2001-904291 A1 20010712 (9)
RLI Division of Ser. No. US 2000-424427, filed on 28 Feb 2000, PATENTED
PRAI GB 1997-10497 19970522
WO 1998-GB1395 19980522
DT Utility
FS APPLICATION
LREP Bracewell & Patterson, LLP, Suite 1600, 201 Main Street, Fort Worth, TX, 76102
CLMN Number of Claims: 16
ECL Exemplary Claim: 1
DRWN 12 Drawing Page(s)
LN.CNT 820

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention concerns a novel bacterial ***autoinducer*** , methods of its manufacture, isolation and purification, uses of ***autoinducer*** isolated and purified using same, and the uses of the ***autoinducer*** .

L19 ANSWER 80 OF 87 USPATFULL
AN 2002:16578 USPATFULL
TI Composition and method for treating inflammatory diseases
IN Boone, Thomas C., Newbury Park, CA, UNITED STATES
Hershenson, Susan, Newbury Park, CA, UNITED STATES
Bevilacqua, Michael P., Boulder, CO, UNITED STATES
Collins, David S., Fishers, IN, UNITED STATES
PA Amgen Inc. (U.S. corporation)
PI US 2002009454 A1 20020124
AI US 2001-784623 A1 20010215 (9)
RLI Division of Ser. No. US 1998-131247, filed on 7 Aug 1998, PENDING
PRAI WO 1997-US2131 19970210
US 1997-55185P 19970808 (60)
DT Utility
FS APPLICATION
LREP Timothy J. Gaul, U.S. Patent Operations/TJG, Dept. 4300, M/S 27-4-A, AMGEN, INC., One Amgen Center Drive, Thousand Oaks, CA, 91320-1799
CLMN Number of Claims: 20
ECL Exemplary Claim: 1
DRWN 14 Drawing Page(s)
LN.CNT 3525
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A protein which exhibits a therapeutic effect on inflammation and is useful for treating IL-1-mediated inflammatory diseases, particularly diseases of the joint.

L19 ANSWER 81 OF 87 USPATFULL
AN 2002:6015 USPATFULL
TI ***Autoinducer*** compounds
IN Livinghouse, Tom, Bozeman, MT, United States
PA The Research & Development Institute, Inc., Bozeman, MT, United States (U.S. corporation)
PI US 6337347 B1 20020108
AI US 1998-99196 19980618 (9)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Ketter, James
LREP Lahive & Cockfield, LLP, Lauro, Esq., Peter C., Hanley, Esq, Elizabeth A.
CLMN Number of Claims: 28
ECL Exemplary Claim: 1
DRWN 0 Drawing Figure(s); 0 Drawing Page(s)
LN.CNT 791
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB ***Autoinducer*** compounds which enhance gene expression in a wide variety of microorganisms, therapeutic compositions and therapeutic methods wherein gene expression within microorganisms is regulated are disclosed.

L19 ANSWER 82 OF 87 USPATFULL
AN 2001:202432 USPATFULL
TI E. coli, Salmonella or Hafnia ***autoinducers***
IN Freestone, Primrose Pamela Elaine, Leicester, United Kingdom
Williams, Peter Humphrey, Leicester, United Kingdom
Lyte, Mark, Eagan, MN, United States
Haigh, Richard David, Leicester, United Kingdom
PA University of Leicester, United Kingdom (non-U.S. corporation)
PI US 6316244 B1 20011113
WO 9853047 19981126
AI US 2000-424427 20000228 (9)
WO 1998-GB1395 19980522
20000228 PCT 371 date
20000228 PCT 102(e) date
PRAI GB 1997-10497 19970522
DT Utility
FS GRANTED
EXNAM Primary Examiner: Ware, Deborah K.
CLMN Number of Claims: 14
ECL Exemplary Claim: 1
DRWN 12 Drawing Figure(s); 12 Drawing Page(s)
LN.CNT 804
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A bacterial ***autoinducer*** and method for isolating and purifying a bacterial ***autoinducer*** from a sample comprising the steps of collecting a sample containing the ***autoinducer*** , fractionating the sample to isolate fractions corresponding to molecular weights of approximately 300-1500 Dalton, and eluting the isolate on an anion-exchange chromatographic column and selecting the faction containing the ***autoinducer*** .

L19 ANSWER 83 OF 87 USPATFULL
AN 2001:162845 USPATFULL
TI Composition and method for treating inflammatory diseases
IN Boone, Thomas C., Newbury Park, CA, United States
Hershenson, Susan, Newbury Park, CA, United States
Bevilacqua, Michael P., Boulder, CO, United States
Collins, David S., Fishers, IN, United States
PA Amgen Inc., Thousand Oaks, CA, United States (U.S. corporation)
PI US 6294170 B1 20010925
AI US 1998-131247 19980807 (9)
PRAI US 1997-55185P 19970808 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Born, Michael
LREP Gaul, Timothy J., Levy, Ron K., Odre, Steven M.
CLMN Number of Claims: 15
ECL Exemplary Claim: 1
DRWN 14 Drawing Figure(s); 14 Drawing Page(s)
LN.CNT 3022
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A protein which exhibits a therapeutic effect on inflammation and is useful for treating IL-1-mediated inflammatory diseases, particularly diseases of the joint.

L19 ANSWER 84 OF 87 USPATFULL
AN 1999:146317 USPATFULL
TI Microorganisms and methods for overproduction of DAHP by cloned PPS gene
IN Liao, James C., 10573 Wellworth Ave., Los Angeles, CA, United States 90024
PI US 5985617 19991116
AI US 1999-277183 19990326 (9)
RLI Continuation of Ser. No. US 1997-801454, filed on 18 Feb 1997, now patented, Pat. No. US 5906925
DT Utility
FS Granted
EXNAM Primary Examiner: Brusca, John S.
LREP Gunn & Associates
CLMN Number of Claims: 29
ECL Exemplary Claim: 1
DRWN 14 Drawing Figure(s); 6 Drawing Page(s)
LN.CNT 1334
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Genetic elements comprising expression vectors and a gene coding for phosphoenol pyruvate synthase is utilized to enhance diversion of carbon resources into the common aromatic pathway and pathways branching therefrom. The overexpression of phosphoenol pyruvate synthase increases DAHP production to near theoretical yields.

L19 ANSWER 85 OF 87 USPATFULL
AN 1999:61112 USPATFULL
TI Microorganisms and methods for overproduction of DAHP by cloned pps gene
IN Liao, James C., Department of Chemical Engineering, Texas A&M University, Zachary Building, Room 336, College Station, TX, United States 77843-3122
PI US 5906925 19990525
AI US 1997-801454 19970218 (8)
RLI Continuation of Ser. No. US 1994-307371, filed on 16 Sep 1994, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Elliott, George C.; Assistant Examiner: Brusca, John S.
LREP Gunn & Associates, P.C.
CLMN Number of Claims: 28
ECL Exemplary Claim: 1
DRWN 14 Drawing Figure(s); 6 Drawing Page(s)
LN.CNT 1370
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Genetic elements comprising expression vectors and a gene coding for phosphoenol pyruvate synthase is utilized to enhance diversion of carbon resources into the common aromatic pathway and pathways branching therefrom. The overexpression of phosphoenol pyruvate synthase increases DAHP production to near theoretical yields.

L19 ANSWER 86 OF 87 USPATFULL
AN 1998:61418 USPATFULL
TI Assays, test kits and bacteria for detection of ***autoinducers***
IN Dunlap, Paul Vernon, Woods Hole, MA, United States
PA Woods Hole Oceanographic Institution, Woods Hole, MA, United States

(U.S. corporation)
PI US 5759798 19980602
AI US 1995-569973 19951208 (8)
DT Utility
FS Granted
EXNAM Primary Examiner: Housel, James C.; Assistant Examiner: Portner, Ginny Allen
LREP Buckley, Linda M., Corless, Peter F., Lowen, Cara Z.
CLMN Number of Claims: 10
ECL Exemplary Claim: 1
DRWN 1 Drawing Figure(s); 1 Drawing Page(s)
LN.CNT 742
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention provides assays, kits and bacteria useful for detection of ***autoinducers*** . In a preferred aspect, the assay comprises 1) contacting a test sample suspected of containing an ***autoinducer*** with bacteria of the invention that are capable of producing an elevated amount of light in the presence of an exogenous ***autoinducer*** and that has at least two distinct genetic alterations that can each ***inhibit*** production of endogenous ***autoinducers*** ; and 2) measuring the production of light. The sample will test positive for the presence of an ***autoinducer*** if a greater amount of light is produced relative to a control. The assays and kits have a variety of applications including use as an in vitro diagnostic for animal and plant disorders.

L19 ANSWER 87 OF 87 USPATFULL
AN 97:3676 USPATFULL
TI ***Autoinducer***
IN Bycroft, Barrie W., Nottingham, United Kingdom
Williams, Paul, Nottingham, United Kingdom
Stewart, Gordon S. A. B., Loughborough, United Kingdom
Chhabra, Siri R., Loughborough, United Kingdom
Stead, Paul, Broadstone, United Kingdom
Winson, Michael K., Nottingham, United Kingdom
Hill, Philip J., Nottingham, United Kingdom
Rees, Catherine E. D., Nottingham, United Kingdom
Bainton, Nigel J., Nottingham, United Kingdom
PA The University of Nottingham, Nottingham, United Kingdom (non-U.S. corporation)
PI US 5593827 19970114
WO 9218614 19921029 ##STR1##
AI US 1993-137036 19931018 (8)
WO 1992-GB713 19920416
19931018 PCT 371 date
19931018 PCT 102(e) date
PRAI GB 1991-8307 19910418
DT Utility
FS Granted
EXNAM Primary Examiner: Ketter, James S.
LREP Wenderoth, Lind & Ponack
CLMN Number of Claims: 21
ECL Exemplary Claim: 1
DRWN 5 Drawing Figure(s); 3 Drawing Page(s)
LN.CNT 1282

AB The compound N-(.beta.-ketocaproyl)L-homoserine ***lactone*** is shown to be an ***autoinducer*** that enhances gene expression in a wide variety of microorganisms. Use can be made of this property for diagnostic purposes, e.g., when gene expression causes bioluminescence or antibiotic production, or to promote bacterial growth. The invention claims use for these purposes of the compound and analogs of formula (I) where n is 2 or 3, each of X and Y is O, S or NH, and R is optionally-substituted C1-C12 alkyl or acyl. Some of these are also claimed as new compounds.